

DOCUMENT RESUME

ED 380 319

SO 024 144

AUTHOR Fien, John, Ed.
TITLE Teaching for a Sustainable World. Environmental and Development Education Project for Teacher Education.
INSTITUTION Australian Association for Environmental Education, Inc., Brisbane.
SPONS AGENCY Australian International Development Assistance Bureau.; Griffith Univ. Nathan, Brisbane (Australia).
REPORT NO ISBN-0-9589087-2-9
PUB DATE 93
NOTE 519p.; Photographs in handout material may not copy adequately.
AVAILABLE FROM Australian Association for Environmental Education, Inc., Faculty of the Environmental Sciences, Griffith University, Nathan, Brisbane, Queensland, Australia 4111 (\$100 Australian, plus postage).
PUB TYPE Guides - Classroom Use - Teaching Guides (For Teacher) (052)
EDRS PRICE MF02/PC21 Plus Postage.
DESCRIPTORS Conservation (Environment); *Ecology; *Economic Development; Elementary Secondary Education; *Environmental Education; Foreign Countries; *Futures (of Society); Higher Education; Preservice Teacher Education; Sustainable Development; *Teacher Workshops; Waste Disposal
IDENTIFIERS Australia

ABSTRACT

This document is a curriculum for preservice teachers that attempts to illustrate how environmental education and development education are related and to provide practical assistance for teacher educators who would like to include these important fields in their programs. The project provides a focus for discussion of environmental and development education issues in teacher education in Australia. The particular audience for this project is preservice teacher education. However, the workshop modules are adapted easily for the continuing or inservice professional development of teachers. The workshops provided in this program may be used in three major ways: (1) the materials may be used as the basis for a linked program of professional and curriculum development; (2) the workshop materials may be infused, with or without local adaptations, into a range of courses, subjects, or units in a teacher education course; and (3) the workshops may be used as a set for a core or elective course in development and environmental education. Three workshops were written to be introductory. These workshops provide an introduction to environmental education, an introduction to development education, and a way of seeing the linkages and similarities between environmental and development education. These three workshops may be considered as a hub while the remaining 15 workshops are spokes that address particular themes and specialties in environmental and development education. These other themes discuss futures, science, educational resources, sustainability, population, and waste management among others. (DK)

TEACHING *for a* SUSTAINABLE WORLD

ENVIRONMENTAL AND DEVELOPMENT EDUCATION
PROJECT FOR TEACHER EDUCATION

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INTRODUCTION
to
ENVIRONMENTAL
EDUCATION

JOHN FIEN
GRIFFITH UNIVERSITY

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TEACHING *for a* **SUSTAINABLE** **WORLD**

ENVIRONMENTAL AND DEVELOPMENT EDUCATION
PROJECT FOR TEACHER EDUCATION

EDITOR: JOHN FIEN



AUSTRALIAN INTERNATIONAL DEVELOPMENT ASSISTANCE BUREAU



AUSTRALIAN ASSOCIATION FOR ENVIRONMENTAL EDUCATION INC.



GRIFFITH UNIVERSITY

THE ENVIRONMENTAL AND DEVELOPMENT EDUCATION PROJECT FOR TEACHER EDUCATION

A project of the Australian Association for Environmental Education Inc. supported by the Development Education Project Scheme of the Australian International Development Assistance Bureau and the Faculty of Environmental Sciences, Griffith University.

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Published by

Australian Association for Environmental Education Inc., Brisbane, 1993

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National Library of Australia

Cataloguing-in-publication data

Teaching for a Sustainable World:

The Environmental and Development Education Project for Teacher Education

ISBN 0 9589087 2 9

1. Environmental education

2. Development education

3. Teacher education

I. Fien, John F, 1951

II. Australian Association for Environmental Education Inc.

333.7'07

The viewpoints expressed here are those of the individual authors and do not necessarily reflect the views of the Editor, the project staff, the Australian Association for Environmental Education Inc., Griffith University, or the Australian International Development Assistance Bureau.

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ACKNOWLEDGMENTS

The AIDAB-AAEE Environmental and Development Education Project for Teacher Education was made possible only by the co-operation of many people and organisations.

First of all, the Australian Association for Environmental Education Inc. would like to express its appreciation to the Development Education Project Scheme of the Australian International Development Assistance Bureau (AIDAB) for its strong financial support and for the encouragement and guidance provided by Ms Cilla Ballard, a Development Education Officer in AIDAB.

Similar expressions of appreciation are due to the Faculty of Environmental Sciences of Griffith University which housed the project and provided all manner of support.

The workshops were written by a team of nearly 20 people who work in twelve different universities, government departments and community environmental and development organisations. All gave of their time and talents willingly and for the reimbursement of their costs only. The project would have been impossible without them. Their employing organisations are to be congratulated for providing the environment which allows this kind of professionalism to flourish.

The project was managed by a small core comprising John Fien, Elizabeth Baker and Jan Bindon. Lin Fairlie, AAEE Treasurer for 1990-92, managed the project's budget.

Marni Taylor and Lesley Cassidy were a superb design and Desk Top Publishing team. We owe them much, not only for the high quality publication they have produced but also for the patience and understanding with which they have worked with us.

Guidance in the development of the project was provided by a seminar in March 1992 attended by John Fien, Rob Gilbert, Kathleen Gordon, Brian Hoepper, Melva Hobson, Hilary Macleod, Jan Oliver, Jim Richmond, Ian Robottom, Michael Singh, Helen Spork and Rick Swindell.

David Hicks of the WWF(UK)-sponsored Global Futures Project at the Bath College of Higher Education served as a consultant to this project - and wrote two of the workshops. David Hicks also co-edited the first drafts of the workshops.

Most of the workshops are supported by resources and readings for which many organisations have graciously provided permission for the reprinting of these materials. We would especially like to thank the following: Amnesty International; Australian Geography Teachers Association Inc.; Dr Lester Brown, Worldwatch Institute, Washington DC; Centre for Development and Innovation in Health: A Primary Health Resource Centre (formerly known as Community Development in Health); Centre for Global Education, University of York; Community Aid Abroad; Council for Environmental Education; Curriculum Corporation; Global Learning Centre Queensland Incorporated; *Habitat Australia*, the magazine of the Australian Conservation Foundation; Kogan Page; Longman; Alan Moir, *Sydney Morning Herald*; *New Internationalist*; *Prospect*, the UNESCO education journal; S&W Information Guides; Daniella Tilbury, Department of Education, University of Cambridge; *The Advertiser*; *The Guardian*; World Wide Fund For Nature (UK); World Wide Fund For Nature (USA); and United Nations Development Programme.

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THE PROJECT TEAM

The workshop modules in *Teaching for a Sustainable World* were written, trialled and evaluated by teams of writers drawn from many universities, government departments and community organisations. The contributors were:

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A child born today will be faced as an adult almost daily, with problems of a global interdependent nature, be it peace, food, the quality of life, inflation, or scarcity of resources. He (sic) will be both an actor and a beneficiary or a victim in the total world fabric, and he may rightly ask: "Why was I not warned? Why was I not better educated? Why did my teachers not tell me about these problems and indicate my behaviour as a member of an interdependent human race?"

It is, therefore, the duty and the self-enlightened interest of governments to educate their children properly about the type of world in which they are going to live. They must inform them of the action, the endeavour, and the recommendations of their global organizations ... and prepare their young people to assume responsibility for the consequences of their actions and help in the care of several billion more fellow humans on Earth.

Muller, R. (1982) *New Genesis: Shaping a Global Spirituality*, Doubleday, New York.

TEACHING *for a* SUSTAINABLE WORLD

A NEW AGENDA IN TEACHER EDUCATION

JOHN FIEN
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In the middle of the 20th century, we saw our planet from space for the first time. Historians may eventually find that this vision had a greater impact on thought than did the Copernican revolution of the 16th century, which upset the human self-image by revealing that the Earth is not the centre of the universe. From space, we see a small and fragile ball dominated not by human activity and edifice but by a pattern of clouds, oceans, greenery, and soils. Humanity's inability to fit its doings into that pattern is changing planetary systems, fundamentally. Many such changes are accompanied by life-threatening hazards. This new reality, from which there is no escape, must be recognized - and managed. (World Commission on Environment and Development 1987, p. 1)

Schools and teachers are often called upon to help assuage society's problems. This is to be expected given the government funds allocated to education and the desire for schooling to be relevant to social questions, issues and problems. Thus, there are demands that school programmes be vocationally relevant, promote intercultural appreciation and harmony, develop personal and interpersonal skills, encourage active and informed citizenship, and so on. Hazlett (1979) has described the policy process through which social problems in society become educational ones when:

The nation tends to reduce political, social, and economic problems to educational ones and claims to expect schools to cure present ills and provide for a brighter tomorrow for individuals and the collectivity. (p. 133)

Multicultural education, school-industry links, consumer education and political education are curriculum responses to this process. There is justifiable debate about the ethics and ideological motivations of this process and about the style of political and administrative decision making often involved. However, there can be little dispute over the fact that such "educational problems" and associated curriculum developments in schools place additional demands on teacher education programmes.

Environmental education and development education are other such "educational problems" which requires a response in teacher education. The rising levels of

public awareness of the problems of environmental degradation and global inequalities in recent decades are manifested in growing concerns over the stability of ecosystems, the sustainability and equity of present patterns of development, and the quality of life to be enjoyed by present and future generations. Many schools have been motivated by student, parent and teacher interest in these issues to incorporate environmental and development education into school development plans and have developed a range of innovative programmes and activities. These have been supported by the policy processes within education systems and the provision of guidelines, resources, and opportunities for professional development. Teacher educators, especially in geography, social education and science curriculum studies courses, have responded in a number of ways to the growing need for professional development in environmental education also.

However, despite the rising interest in environmental and development education in schools and the expectations of governments, several studies indicate cause for concern. They indicate that good practice in environmental and development education is not widespread, that few teachers appreciate the full range of objectives, resources and strategies in these fields, and that few have received either pre-service studies or undertaken in-service professional development in them (Stapp and Stapp 1983; Fien 1986; Sporic 1992).

These concerns make it timely that comprehensive attention be given to the place of environmental and development education in pre-service teacher education programmes. The role of environmental education in teacher education is well developed in the international literature, chiefly as a result of the UNESCO-UNEP International Environmental Education Programme. There has been no comparable programme for development education by UNESCO. However, development education - like environmental education - is an important aspect of global education, an area in which there has been concerted work in recent years at least in the in-service education domain of professional development. The AIDAB-AAEE Environmental and Development Education Project for Teacher Education, and the workshop modules it has produced, represent one of the first attempts to illustrate how environmental education and development education are related and to provide practical assistance for teacher educators who would like to include these important fields in their programmes.

The AIDAB-AAEE Environmental and Development Education Project for Teacher Education provides a focus for discussion of environmental and development education issues in teacher education fora in Australia. Outcomes from such discussions may include:

- an increase and widening of interest in environmental and development education across the range of disciplines and interest areas in Faculties or Schools of Education,
- a sharing of expertise, debate and research in environmental and development education between universities,
- a review of existing provision for environmental and development education in teacher education programmes, and
- decisions to develop a comprehensive approach to preparing teachers for the challenges and responsibilities they face in environmental and development education in schools.

The particular audience of this project is pre-service teacher education. However, the workshop modules are easily adapted for the continuing or in-service professional development of teachers also. Universities, professional associations, education systems, teachers' centres, community environment and development organisations and schools are invited to use these materials in their in-service education programmes.

There are two three major ways that a Faculty or School of Education may use the workshops provided in this package.

First, the materials may be used as the basis for a linked programme of professional and curriculum development. Familiarisation with the concepts developed in these workshops and experiential learning strategies common to them may provide new skills for faculty members and new ideas for existing courses and programmes. Also, such familiarisation may provide a body of ideas and criteria to assist in the review of existing Diploma of Education, Bachelor of Education and Bachelor of Teaching programmes and may assist decisions about the goals, content, structure and approaches to be adopted when new programmes are being designed.

Second, the workshop materials may be infused - as is but, preferably, with local adaptations - into a range of courses/subjects/units in a teacher education course. Figure 1 suggests some possibilities but the flexibility of the workshops means that the scope for infusion is limited only by our capacities to see new possibilities.

Third, the workshops could be used as a set - again, preferably, with local adaptations - for a core or elective course/subject/unit in development and environmental education. This approach may be most desirable if it is feared that the infusion approach may lead to the accidental duplication of some topics and the omissions of others or some students still missing out altogether. Effective infusion requires careful planning, coordination and evaluation and, if this is not possible, a set course may be desirable.

The workshops have been prepared to facilitate their use in any of these ways.

Three workshops were written to be introductory. These are the first three in this package. These workshops provide an introduction to environmental education, an introduction to development education, and a way of seeing the linkages and similarities between environmental and development education. These three workshops may be considered as a hub while the remaining ones are spokes that address particular themes and specialities in environmental and development education and may be used in any combination and sequence but, preferably, after the three core workshops have been completed.

THE CHALLENGE OF INTERLOCKING CRISIS FOR TEACHER EDUCATION

The last decade of the twentieth century is a time of heightened public awareness of the scale, severity and complexity of many global problems. Numerous reports indicate that public concern for the environment is at unprecedented levels in Australia and, indeed, throughout the world (ANOP Research Services 1992; Dunlap, Gallup and Gallup 1992). Concern has been growing since the early 1960s over problems as diverse, yet global in impact, as atmospheric warming and climatic change, the destruction of rainforests and threats to biodiversity, accelerating rates



FIGURE 1.

**THE PLACE OF THE WORKSHOP MODULES IN TEACHER
EDUCATION PROGRAMMES**

EDUCATION COURSE	WORKSHOPS																	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
INTEGRATED ISSUES IN EDUCATION COURSE	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
SOCIOLOGY OF EDUCATION	•	•	•	•	•		•		•	•		•	•	•		•		•
PSYCHOLOGY OF EDUCATION	•	•	•			•												•
PHILOSOPHY OF EDUCATION	•	•	•	•	•	•	•						•					•
LANGUAGE ARTS EDUCATION	•	•	•	•	•		•	•	•	•				•		•	•	•
SOCIAL EDUCATION	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
GEOGRAPHICAL EDUCATION	•	•	•	•	•		•	•	•	•	•	•	•	•	•	•	•	•
HISTORY EDUCATION	•	•	•	•	•		•											•
SCIENCE EDUCATION	•	•	•	•	•	•	•				•							•
HOME ECONOMICS EDUCATION	•	•	•	•	•		•	•	•	•		•	•	•	•	•	•	•
ECONOMICS/BUSINESS STUDIES EDUCATION	•	•	•	•	•		•	•	•						•	•	•	•
TECHNOLOGY EDUCATION	•	•	•	•	•	•	•				•						•	•
HEALTH EDUCATION	•	•	•	•	•		•			•	•			•	•	•	•	•

of land degradation and desertification, population-resource imbalances, urban decay, nuclear accidents, the disposal of toxic wastes, and a range of other threats to the quality of human life and the sustainability of ecosystems. Acknowledging this concern, *Time* magazine chose to honour "Endangered Earth" instead of a Man or Woman of the Year in 1988. The lead story writer explained that:

... worldwide public opinion ... sensed that this gyrating globe, this precious repository of all the life that we know of, was in danger. No single individual, no event, no movement captured the imagination or dominated headlines more than the clump of rock and soil and water and air that is our home. Thus, in a rare but not unprecedented departure from its naming a Man (sic) of the Year, Time has designated Endangered Earth as the Planet of the Year for 1988 (Sanction 1989, pp. 11-12).

There are also rising levels of concern about the problems associated with global inequalities in standards of living and human well-being. These problems include regional conflicts, great imbalances in the consumption of resources between countries and regions, droughts and famine - sometimes on near-continental scales, the increasing marginalisation of women, ethnic minorities, indigenous peoples, the unemployed and the physically disabled, accumulating foreign debt, the failure of the world to solve the trade and transport problems that still cause hunger and malnutrition, and the necessity for many people to over-exploit the resources of their local environment for daily survival.

The World Commission on Environment and Development (1987) recognised the interdependence of these environmental and development issues. It noted that:

Until recently, the planet was a large world in which human activities and their effects were neatly compartmentalized within nations ... and within broad areas of concern (environmental, economic, social). These compartments have begun to dissolve. This applies in particular to the various global 'crises' that have seized public concern, particularly over the last decade. These are not separate crises: an environmental crisis, a development crisis, an energy crisis. They are all one (p. 4).

The Commissioners reported that this realisation made them focus on one central theme: many present development trends leave increasing numbers of people poor and vulnerable and at the same time degrade the natural environment. Their conclusion was that humankind required a new, more ecologically sustainable and socially just pattern of development. In fact, many of these approaches are not "new" but are to be found in the wisdom and values that inform the principles of living sustainably that have characterised indigenous and farming peoples in many parts of the world for thousands of years. They are also to be found in the programmes and campaigns for appropriate and sustainable development of the ecology movements around the world, and especially in the women's ecology movement in the South (Shiva 1989; Rodda 1991).

People and their governments are yet to realise the full implications of the message of sustainable development. However, they are becoming increasingly aware of the links that exist between human development and the environment. Instead of seeing the environment as just nature and natural systems, we are coming to see it in an holistic sense as the totality of our surroundings and existence which results

from the way we use nature and its resources to satisfy our needs and wants. This means seeing the environment as a complex web of global social, cultural, economic and political as well as geo- and bio-physical components. It also means realising that environmental and development problems cannot be understood without reference to social, economic and political values, and that managing the global crisis will depend upon changes in personal values, lifestyle choices, and global patterns of development and trade.

To help bring these about, Schleicher (1989) writes of the need for a new "ecological ethic, ... an ecologically oriented value system" based upon "fundamental change(s) in human attitudes and actions towards ourselves and the environment" (pp. 277-278). The scope of such a change in social values has been likened to a change in social paradigms or world views. This would involve a process of change towards social systems, institutions and practices guided by values such as: empathy with other species, other people and future generations, respect for natural and social limits to growth, support for careful planning in order to minimise threats to nature and the quality of life, and a desire for change in the way most societies conduct their economic and political affairs (see Milbrath 1989, pp. 58-87).

While there is debate about particular directions and the pace of this "paradigm shift" and about the effectiveness of different strategies for social change, there seems to be wide agreement, both in Australia and internationally, that education has an important role to play in motivating and empowering people to participate in environmental improvement and protection. Indeed, as early as two decades ago, education was described by one commentator as "the greatest resource" in this endeavour (Schumacher 1973, pp. 64).

Four major international reports of the last decade have emphasised this also. The theme of these reports is the search for sustainable patterns of development and living that can redress present day environmental decline without jeopardising the ecosystem or resource base for future generations.

The Brundtland Report of the World Commission on Environment and Development (1987) argued that "the world's teachers ... have a crucial role to play" in helping to bring about the "the extensive social changes" needed for sustainable development (p. xiv). The 1980 World Conservation Strategy was quite explicit about the role of education in bringing about such changes. It argued that:

Ultimately, the behaviour of entire societies towards the biosphere must be transformed if the achievement of conservation objectives is to be assured. A new ethic, embracing plants and animals as well as people is required for human societies to live in harmony with the natural world on which they depend for] survival and wellbeing. The long term task of environmental education is to foster or reinforce attitudes and behaviours compatible with this new ethic. (IUCN, UNEP and WWF 1980: Section 13)

This message was repeated in *Caring for the Earth: A Strategy for Sustainable Living* which was prepared as the World Conservation Strategy for the 1990s (IUCN, UNEP and WWF 1991). *Caring for the Earth* argues that education has a vital role to play in ensuring that people learn, accept and live by the principle that "living sustainably depends on accepting a duty to seek harmony with other people and with nature" (p. 8):



Sustainable living must be the new pattern for all levels: individuals, communities, nations and the world. To adopt the new pattern will require a significant change in the attitudes and practices of many people. We will need to ensure that education programmes reflect the importance of an ethic for living sustainably. (IUCN, UNEP and WWF 1991, p. 5)

Agenda 21 is the internationally agreed report of the United Nations Conference on Environment and Development or "Earth Summit" which was held in Rio de Janeiro in June 1992. Agenda 21 devotes a whole chapter to the role of environmental education in relation to sustainability:

Education is critical for promoting sustainable development and improving the capacity of the people to address environment and development issues.... It is critical for achieving environmental and ethical awareness, values and attitudes, skills and behaviour consistent with sustainable development and for effective public participation in decision-making. (UNCED 1992, Chapter 36, p. 2)

The theme of ecologically sustainable development which is central to all these calls for environmental education is also central to the vision of a desirable society held by many people today. For example, the study, *Visions of a Future Australian Society: Towards an Educational Curriculum for 2000 AD and Beyond*, by Campbell, McMeniman and Baikaloff (1992) for the Queensland Ministerial Consultative Council on Curriculum found that ecological sustainability ranked second only to social justice in a ranking of twenty-two societal and educational goals. It is important to understand what is meant by ecological sustainability in such an expectation of education (Fien 1993a; Orr 1992). However, while definitions of sustainability do vary, at the heart of sustainable development is the mitigation of the impacts humans make on the earth and the way we organise the flows, production and distribution of resources and wastes, which in turn affect what political scientists define as the essential issues of politics: "Who gets what, when, and how?" (after Orr 1992, p. 145).

When sustainability is bracketed with social justice in visions of desirable futures, it is possible to identify a definition of sustainability - and a range of related issues - that education should address if those visions are to be achieved. Such a definition of sustainable development sees it as a process which requires that the use of environments and resources by one group of people does not jeopardise the environments and well-being of people in other parts of the world or destroy the capacities of future generations to satisfy their reasonable needs and wants. Issues of ecological sustainability and social justice that flow from such a view include the following:

- There are great differences in the availability and use of resources around the world with poverty and need in some areas matched by overproduction and overconsumption in others.

How can the overconsumption, waste and misuse of resources by some people be reduced? How can the severe poverty that causes many to exploit the earth just to survive be eliminated? How can the pressure on the environment from both causes be overcome?

- Some economic activities do great harm to environments, resources and communities.

How can economic activity be made of benefit to the communities and the companies involved, and without critical damage to the environment?

- Economic growth in some parts of the world is so high that it is leading to the production and consumption of many items that are super-luxuries and use resources that could be used to satisfy the needs of many of the world's poor.

How can the resources consumed by such luxuries be redirected to aid the poor or be conserved for future generations?

- Relatively high population densities and growth rates in certain parts of the world, and the associated pressure on the local resource base, are symptoms of the legacy of colonialism and present-day structural inequalities in the world economic system rather than causes of environmental problems. Appropriate social development lies at the heart of the solution to population and environmental pressures.

How can the nexus between the environment, social development and population growth be formulated to ensure the sustainable use of resources?

- The indigenous and farming peoples of many countries have developed an ethic of sustainability and associated land use practices that have preserved their culture and harmony between people and nature for millennia.

How can the rights of these people be maintained and the knowledge and wisdom they possess be shared with others in all parts of the world?

- Women and young people have a vital role to play in environmental care and development, now and into the future. They have viewpoints, skills and interests that can help maximise the potential for sustainable development.

How can the wisdom, courage and talents of women and young people be used as a model for sustainable development policies and practices?

- The most effective arena for action on sustainability and justice issues is the local community.

How can people best organise themselves locally - and liaise with others nationally and globally - to collaborate in the movement towards sustainable development?

EDUCATION FOR SUSTAINABLE LIVING

These are issues that educationalists have been slow to address. In concentrating on issues of class and economic reproduction and the reproduction of racial and gender inequalities, educationalists have been slow to analyse the relationship between education and the processes of the world economy, the nature of the dominant model of what counts as economic development, and the environmental destruction upon which it is based. D'Urso (1990) has described the environmental crisis and educational responses to it as "curiously neglected by socio-cultural theorists of education" and urges them to strike "beyond the bounds of current educational concerns" to establish environmental education as "a new and vitally important discourse" (p. 92).

Only recently, has this analysis been extended to consider the relationship between education and the reproduction of the environmental values and practices of global capital. For example, Trainer (1990) has argued that both the overt and the hidden curricula of schools play a major role in reproducing the ecologically unsustainable values of "industrial, affluent, consumer society" (p. 105), including the desirability of economic growth and a competitive economy, the importance of self-advancement, and the correctness of allowing the profit motive and the market to determine economic and social priorities (p. 107).

Issues of environment, social justice and sustainable development pose important questions for the future of human society. They are also important for those who wish to teach for a just and sustainable future and those who are involved in the education of such teachers. This means that those involved in environmental and development education, at whatever level, need to activate the socially critical or reconstructionist tradition in education and promote approaches to curriculum planning and pedagogy that can help integrate social justice and ecological sustainability into a vision and a mission of personal and social change. Orr (1992) argues that such an approach to education is "unavoidably political" but that to attempt to "stand aloof from the decisions about how and whether life will be lived in the twenty-first century ... is to condemn ourselves to irrelevance" (p. 145).

The social, economic, political and ecological imperatives of the concept and processes of sustainable development outlined in this section have established a renewed agenda for environmental education which links it very closely with development education. The World Conservation Union (IUCN) has described this new direction for environmental education as "education for sustainable living". To obtain a clear definition of education for sustainable living, it is helpful to define environmental education and development education and to uncover the links between them.

According to Stevenson (1987), environmental education involves:

... the intellectual tasks of critical appraisal of environmental (and political) situations and the formulation of a moral code concerning such issues, as well as the development of a commitment to act on one's values by providing opportunities to participate actively in environmental improvement. (p. 69)

A 1975 UN definition of development education states that:

The objective of development education is to enable people to participate in the development of their community, their nation and the world as a whole. Such participation implies a critical awareness of local, national and international processes.

Development education is concerned with issues of human rights, dignity, self-reliance and social justice in both developed and developing countries. It is concerned with the causes of under-development and the promotion of an understanding of what is involved in development, of how different countries go about undertaking development, and of the reasons for and ways of achieving a new international economic and social order (quoted in Hicks and Townley 1982).

There are strong similarities between these two definitions and, together, they may be seen as the core of education for sustainable living. Education for sustainable living is defined by the IUCN Commission on Education and Communication (1993) as a process which:

... develops human capacity and creativity to participate in determining the future, encourage technical progress as well as fostering the cultural conditions favouring social and economic change to improve the quality of life and more equitable economic growth while living within the carrying capacity of supporting ecosystems to maintain life indefinitely. (p. 6)

Many aspects of traditional approaches to environmental education contribute to education for sustainable living. For example, the UNESCO-UNEP International Environmental Education Programme has often sought to integrate issues of ecological sustainability and social justice. For example, the preamble to *The Belgrade Charter* (UNESCO-UNEP 1976) upon which many international developments in environmental education have been based located environmental education within the global movement for a New International Economic Order directed at solving the social and environmental problems that flow from poverty, hunger and exploitation:

Inequality between the poor and the rich among nations and within nations is growing and there is evidence of increasing deterioration of the physical environment in some forms on a world-wide scale....

What is being called for is the eradication of the basic causes of poverty, hunger, illiteracy, pollution, exploitation and domination. The previous pattern of dealing with these crucial problems on a fragmentary basis is no longer workable....

It is absolutely vital that the world's citizens insist upon measures that will support the kind of economic growth which will not have harmful repercussions on people; that will not in any way diminish the environment and their living conditions....

We need nothing more than a new global ethic - an ethic which espouses attitudes and behaviour for individuals and societies which are consonant with humanity's place within the biosphere

It is within this context that the foundations must be laid for a world-wide environmental education programme that will make it possible to develop new knowledge and skills, values and attitudes, in a drive towards a better quality of environment and, indeed, towards a higher quality of life for the present and future generations living within that environment (UNESCO-UNEP 1976: 1-2).

However, education for sustainable living requires a reconceptualisation of some aspects of environmental education and some of the assumptions upon which it has often been based. Much of the dominant discourse in environmental education, even some of the prescriptions for environmental education objectives, content and teaching methods that have emanated from the International Environmental Education Programme and other sources of legitimation in environmental education, such as journals and textbooks, have been based upon a technocentric approach to environmentalism which favours initiating young people into the concepts and skills needed for finding scientific and technological solutions to environmental problems without addressing their root social, political and economic causes (e.g. see Huckle 1983; Fien 1993b).

Approaches to environmental education which ignore the issues of justice and ecological sustainability are guided by a technocratic rationality and behaviouristic goals of reductionist Western science and Western approaches to development (Robottom 1989; Greenall Gough 1993). Ecofeminists such as Carolyn Merchant (1980) and Vandana Shiva (1989) have traced the patriarchal assumptions and attitudes to nature, women and development upon which Western science is based as a major cause of environmental exploitation and the increasing marginalisation of many of the world's people. Environmental educators need to be aware of this

critique of the assumptions upon which environmental education has developed and examine the call made by Shiva (1989) for a new environmental science. In directing us towards a new environmental science, she urges us to consider the knowledge base and goals of the women's ecology movement in the South as a model. She writes:

A science that does not respect nature's needs and a development that does not respect people's needs inevitably threatens survival. In their fight to survive the onslaughts of both, women have begun a struggle that challenges the most fundamental categories of Western patriarchy - its concepts of nature and women, and of science and development. Their ecological struggles are aimed simultaneously at liberating nature from ceaseless exploitation and themselves from marginalisation. They are creating a feminist ideology that transcends gender, and a political practice that is humanly inclusive; they are challenging patriarchy's ideological claim to universalism not with another universalising tendency, but with diversity; and they are challenging the dominant concept of power as violence with the alternative of non-violence as power. (pp. xvii-xviii)

Viewed from this perspective, environmental education and environmental education programmes in teacher education need to reflect an alternative epistemology which values diverse ways of knowing, identifies with the people and communities they purport to serve, and respects community-based approaches to social change. Education for sustainable living is one such reconceptualisation of environmental education.

A HISTORY OF NEGLECT

A national pattern of inattention to environmental and development education characterises pre-service teacher education programmes in Australia. That this has paralleled the neglect of these themes by educationalists should not be surprising as both cases essentially involve the same group of people - those academics who chiefly work in university Faculties of Education. However, there is little substantive research to validate the claim of lack of attention beyond a review of university handbooks which revealed that no pre-service teacher education programme in Australia mandated environmental or development education studies. There were no electives in development education and only a few in environmental education. No sociology, psychology or philosophy of education course description mentioned these themes although such a review could not consider what was included in the detailed contents of these courses or whether they were included in applied curriculum studies programmes in science, home economics, social education, etc. This is an area where a substantial research effort is required.

A 1986 study commissioned by the ANU National Development Studies Centre found that no university or CAE faculty or school of education claimed to place great importance on development education in pre-service courses and left it to individual lecturers to include if they deemed it important (Fien 1986). In several cases there was ideological opposition to the "internationalist" orientation of development education. Only in geography and social studies/social science education curriculum studies courses was some attention to development education reported although no respondent claimed to be making a concerted attempt to develop the philosophy, content and pedagogy of development education within their subject field.

There has been no follow-up study to this in development education and no national review at all of the place of environmental education in teacher education programmes. An indication of the neglect of environmental education, however, can be ascertained by the results of a survey of environmental education teaching practices in one education department region of Brisbane. This study of 237 primary school teachers found that only 4.9% said that they had ever undertaken any pre-service studies in environmental education. Over 85% claimed that they had received no training at all in environmental education through their pre-service teacher education courses, in-service training workshops (only 6.6%) or post-graduate studies (only 3.1%).

THE CHALLENGE TO TEACHER EDUCATION

Much needs to be done at all levels to foster development and environmental education. The central role of the teacher in the diffusion of any innovation means that teacher education, at both the pre-service and the in-service levels, is vital. The UNESCO-UNEP International Environmental Education Programme has described the preparation of teachers as "the priority of priorities" (UNESCO-UNEP 1990, p.1).

However, a review undertaken by the International Environmental Education Programme has revealed important deficiencies in provision of appropriate teacher education in many parts of the world. It concluded that "Few, if any, teacher training programmes adequately prepare teachers to effectively achieve the goals of E.E. in their classrooms" (Wilke, Peyton and Hungerford 1987, p. 1). Other national and international surveys of initiatives in pre-service teacher education provision for environmental education in several parts of the world reveal growing interest but little co-ordination (see Bowman and Disinger 1980; Williams 1985; Education Network for Environment and Development n.d.)

This is despite the fact that the 1977 Tbilisi Intergovernmental Conference on Environmental Education emphasised "the establishment at the national level of a programme of action, with the aim, on the one hand of familiarising teachers and educational administrators and planners with different aspects and problems of the environment and on the other hand, giving them a basis of training which would enable them to incorporate environmental education effectively into their respective activities. This action should take the form of both preservice and inservice training" (UNESCO 1978, p. 24). Similarly, the International Congress on Environmental Education and Training in Moscow in 1987 resolved that:

Teacher training is a key factor in the development of EE. The application of new environmental education programmes and proper use of teaching materials depends on suitably-trained personnel, as regards both the content and the methods specific to this form of education. Teachers well trained in the contents, methods and process of EE development can also play a crucial role in spreading the impact of EE at the national level, thus increasing the cost-effectiveness of the efforts made by member States to develop environmental education.... There is a need to identify the national objectives of the training of teachers and to develop plans for the training of teachers which can be implemented by the training authorities. (UNESCO-UNEP 1988, p. 12)

The lack of Commonwealth responsibility for specific directions in teacher education means that there has been little action on these recommendations in Australia. This contrasts with action in the United States of America where, despite a similar lack of national responsibility for teacher education, several states have stipulated mandatory pre-service teacher education studies in environmental education as a requisite for teacher registration. The first of these was Wisconsin beginning in 1985. The number of states mandating environmental education as a condition of registration has so expanded that the Council of State Governors established a task force in 1992 to draft a model Environmental Education Act for all states to follow (NAAEE 1992, p. 13).

There has been some recent action in three states to consider and promote the role of environmental education in teacher education in Australia. A two day seminar on environmental education in Queensland teacher education was held in July 1992. A report from the seminar to the Board of Teacher Registration led to the establishment of the Environmental Education Working Party which has drafted guidelines for pre-service teacher education programmes. In New South Wales, the Legislative Assembly unanimously passed a private member's bill in April 1992 to create an Environmental Education Act. When (and if) passed by the upper house, the Legislative Council, the provisions of this Act will create structures "to identify needs for teacher training and advise tertiary institutions (and) provide environmental education workshops and consulting services to teacher training institutions" (New South Wales 1992). The Victorian Environmental Education Council released its state environmental education strategy in 1992. The strategy outlined the important responsibilities of universities in relation to teacher education to:

- ensure that all teacher education includes environmental education and that high-quality courses for specialist environmental education teachers are readily available;
 - support research to help develop environmental education philosophy and practice.
- (Victorian Environmental Education Council 1992, p. 15)

There has been no parallel initiatives in development education in Australia.

Faculties and Schools of Education are invited to consider the arguments presented in this introduction, to examine the elaboration of the arguments in the three readings which follow, to critique, trial and evaluate the workshop modules, and to interact with members of the environmental education and development education communities in Australia in order to find ways of addressing the global crisis of development, environment and sustainability. Perhaps, then, as teacher educators we will be able to stand with those who have refused to "stand aloof from the decisions about how and whether life will be lived in the twenty-first century" (Orr 1992, p. 145) and will be able to say with Kirk (1977) that our work has contributed to the task of education as:

... the catalyst that not only saves the human race from extinction, but (which) also ... serves to unite all the people of the world in a common effort to find solutions to the perplexing and difficult problems that threaten life on the planet. (p. 350)

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READINGS

READING 1

ENVIRONMENTAL AND DEVELOPMENT EDUCATION

Sachs, I. (1978) Environment and development - key concepts for a new approach to education, *Prospects*, 8 (4), 439-445.

Environment and development —key concepts for a new approach to education

Should degradation of the environment be regarded as an inevitable consequence of economic expansion, industrialization and urban growth, a price that must be paid for progress while doing all one can to see that the bill is not excessive and that the damage caused does not go beyond the bounds of what is tolerable? Or conversely, do these things—the defacing of the planet, irreversible alterations to the climate, pollution and the exhaustion of non-renewable resources—threaten the survival of our civilization and degrade the quality of our lives so much that it would be better for expansion to be sacrificed for the sake of the environment, for a halt to be called to industrial expansion and for urban dwellers to be encouraged to return to rural life?

Extreme and diametrically opposed arguments on behalf of one or other of these two theses were frequent during the initial stage concerning the environment and develop-

ment which preceded the 1972 Stockholm conference.

Thus, some attributed the growth of awareness about the environment to middle-class sensitivity, a kind of reactionary neo-Romanticism deliberately ignoring the real unsolved problems of industrial society such as social inequality, racial discrimination and structural unemployment. In their view, if one wanted to be in a position to tackle these problems, continuous progress in the form of high economic growth is required, and it would be unfortunate if control over the environment were to impede this. The argument, in their view, is still more valid for the countries of the Third World obliged to maximize their industrial growth rates irrespective of the ecological repercussions. There will be time enough to deal with the environment when modernization has been fully achieved and per capita GNP has reached the levels of the industrialized countries. This ideology of out-and-out (or even unbridled) growth was shared, albeit for different motives, by industrialists and by much of the traditional political left wing.

At the opposite extreme radical ecological movements emerged, questioning the main features of industrial civilization, preaching a self-imposed frugality in place of excess, using ecological arguments to advocate the anarchist ideal of life in decentralized communities, coming down heavily on the megamachine which

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should be abandoned in favour of simple forms of technology, and thereby reopening the old debate about the static state and inspiring the zero-growth movement.

The great value of the Stockholm conference, the Founex meeting held a year earlier and some of the work done at these conferences (in particular the Cocoyoc Declaration and the report entitled *What Now?*)¹ was to dismiss both the supporters of unrestrained development and those of zero growth as having no case. What is at stake and the challenge to be faced is how to harmonize economic and social goals with ecologically sound management of resources and the environment. Growth is obviously necessary so long as there is an uneven distribution of society's resources and time, internationally and within individual countries. This uneven distribution is the cause of disparities in income and living standards and of ever more acute contrasts between a highly productive minority and a majority of individuals on the fringes of society who produce little or are completely deprived of the opportunity to perform significant functions. But it must not be growth at any price. Who would still dare defend the optimistic theory of development whereby modernization and high growth rates automatically trigger off social progress? Or suggest that countries of the Third World should slavishly repeat the path once trodden by the industrialized nations, at the cost of the same suffering and the despoliation of others, only to face the same impasses that we have come to today? History never offers models to imitate, but only anti-models which one must strive to avoid, with journeys in time and space—the comparative method, if one prefers that name—being the most reliable source of props for the social imagination. In the final analysis, however, this imagination has to prove itself creative, while remaining solidly grounded in the unique nature of every different context and situation. This is all the more true for the problem we are concerned with here, since the industrialization

and urbanization of the countries of Eastern Europe seem to have been as destructive of the environment as their counterparts under capitalism.²

What is in question is thus both the uses of growth and the methods of achieving it.

The main thing to be noted in the criticism made by the ecologists is the questioning of consumption and life-style models. The solutions they propose are, for the most part, naive ones. At best they are an escape; communities voluntarily putting themselves beyond society's pale have to be seen as a sign of malaise rather than as foreshadowing future solutions. The world of men will never again be an archipelago of isolated microcosms closed in upon themselves (was it ever?). But there can be no doubt that bringing social and economic goals into line with one another is accomplished by modifying social demand. This calls for thorough consideration of the potential limits of freedom and the institutional machinery required to exercise such freedom. Just as the economic 'surplus' is theoretically the yardstick of economic liberty since it can be employed for deliberately selected goals, the 'surplus' of available time appears as the theoretical yardstick of cultural freedom. The two are connected since a society can work more while limiting its free time so as to produce a larger economic surplus or it can voluntarily limit its material appetites and in their stead have more time available for socializing, for cultural and educational activities and for recreation, the range of which could increase considerably.

This question assumes its full importance when we project it in time in anticipation of a steady increase in the productivity of labour.

All the same, in practice these two limits to freedom seem to us to be heavily dependent on the way the economic system performs, the logic of past investments, the shape of the social heritage (infrastructure, habitat, available facilities), the cultural models inherited from the

past, biological constraints and, finally, the interplay of institutions, in the double sense of access to the social heritage and of decision-making machinery. How can mastery of our time and also of the economic surplus be reasserted? Is it possible to alter the proportions between the time allocated to work in an occupation, time devoted to the direct generation of useful activities (goods and services produced outside the market), time used for rest and free time? How should the selection of activities within each time category be institutionalized and how should these activities be organized when linking up collective projects at different levels (national, regional, district, neighbourhood, voluntary associations of any type) with individual projects? And finally, how can it be guaranteed that ecological prudence will operate as a value or criterion for evaluation in all these choices?²

As we have already stated, we attach no credence to the far too simplistic solution of breaking up modern society and resorting to extreme decentralization. But there is no doubt that institutional innovation calls for a strengthening of the community at large to meet the power of commercial forces in alliance with those of the State, and for numerous and varied initiatives taken at the lowest level. In the final analysis, development can come about only from the bottom, if by development we mean a process of social learning consisting of setting oneself aims (values), identifying ways of translating them into plans, given the specific nature of each historic, economic, social, cultural and ecological context and developing an organization to achieve them. It must be repeated that this does not mean it can be brought about by breaking with society. We are postulating a new balance in the ratio of forces and power between the community at large, commerce and the State, to the advantage of the former, and not the disappearance of the State and of commercial life.

Conversely, if taken to its logical conclusion, the conceptual framework suggested above

means denying the validity of the contrast between development and underdevelopment. There remain only development or maldevelopment, both of them being possible irrespective of the level of productive forces. All countries, rich or poor, whether industrialized to a greater or a lesser extent, are constantly in a state of development or maldevelopment: degradation of the environment and wastage of resources are components of maldevelopment. Ecologically prudent management of resources and the environment forms part of the multidimensional approach to development; it is a further dimension of the latter and not its antithesis. It should allow economic growth to be maintained without at the same time inflicting excessive exploitation rates on nature. There are no grounds for accepting a parametric ratio between the economic growth rate and the rate at which reserves of non-renewable resources are used up. Nor, most importantly, are there any grounds for making a fetish of zero growth, which does nothing to remove the drain on non-renewable resources.⁴

If there seems to be no justification for radical ecologism, there is still less reason for run-away economism. Control over economic growth is indispensable if we are to avoid, in the next few decades, overspilling the limits beyond which we would be in danger of triggering off irreversible climate-alteration processes lethal to man and/or exhausting the resources essential to his survival. Any such control has two aspects: modifying social demand, which we have already spoken of, and also safely governing the level of supply. Such guidance requires the introduction of policies applying the postulate of ecological prudence to the management of space, energy and resources, and to the planning and selection of the appropriate technology.

Space and energy have in common the fact that no human activity is possible without long-term or temporary occupation of a point in space

without an expenditure of energy. In addition, space is properly speaking the only resource incapable of being extended. The surface of the planet will not change any further; at best we will succeed in constructing floating islands on the ocean.⁶ Hence the importance of ensuring that any irreversible occupation of space should be decided on with the greatest of care, given the many present or future uses to which that space might be put. The ecologist is interested in handing on to future generations a habitable planet, and the economist in putting it to immediate profit. They thus find themselves set in two very different time-scales; the former being obliged to think in terms of decades and centuries, if not in millennia, the latter in terms of years, or one or two decades at most. This gulf between the long-term and the immediate future is translated in ethical terms into a desire for diachronic solidarity with future generations and a desire for synchronic solidarity with our contemporaries. The two concerns are perfectly legitimate; the whole art of planning is to reconcile them as far as possible by seeking solutions compatible with both criteria and to proceed to maturely pondered arbitration if need be. We should nevertheless note that preference for the present does not necessarily lead to synchronic solidarity in practice—far from it. Growth which underpins maldevelopment exacerbates the human condition of those on the fringes of the production process.

Keeping future options open and harmonizing the multiple uses to which one and the same space may be put, are, in our opinion, two major criteria for the management of space and contrast with the piecemeal mentality of commerce, only interested in space and resources in terms of their availability and price.

As regards energy, the misuse of fossil and nuclear fuels could, sooner or later, bring about catastrophic climate changes⁷ endangering the very survival of the human race. This in no way signifies heralding the apocalypse for the end of the century or the drawing of hasty conclusions

from still vague scientific findings, but it does involve raising the issue of limits to the expansion of our civilization, at least in the shape of material production relying on an exponential rise in the consumption of fossil and nuclear fuels. The scale of human activities appears to have gone beyond the threshold where interference by man had no damaging effect on the major cycles and balance of nature, even though here and there it might have wreaked localized destruction and havoc. This completely novel situation calls for a far-reaching change in our behaviour. We must learn to live as if the resources of the planet were finite, at least until control over solar energy has been achieved (and it is still to be seen at what cost). The replacement of non-renewable and hence eventually exhaustible resources by other non-renewable resources will demand increasing amounts of energy; we shall thus be brought up short at the limits referred to above. Moreover, even if we make rapid progress in developing the various applications of solar energy, everything seems to point to the fact that the age of abundant cheap energy is over for good, which will force us to rationalize the ways in which it is used. Finally, the limits (in the sense given to them here) and the costliness of resources constitute a powerful argument in favour of their redistribution. Equitable access to resources, both internationally and within individual countries, is a precondition for development, whereas maldevelopment is characterized by the siphoning-off of resources into production sectors of only limited benefit to the majority of people.

In the energy field, this new behaviour will be apparent in two complementary policies: the conservation of energy and the promotion of renewable types of energy, i.e. solar energy in all its forms, ranging from photosynthesis to direct generation of electricity by the sun (helio-electricity). The substitution of flows of renewable resources for reserves of non-renewable should be a general rule for a resources policy, provided that the 'renewability' of allegedly

renewable resources is ensured by ecologically valid managements. A forest which is cut down and not re-planted is just a timber mine. On the other hand, a recycled non-renewable resource behaves as a renewable one if and when it is recycled. For this reason, recycling and the utilization of wastes form a second aspect of any resources policy aimed at bringing socio-economic goals into line with ecological management of the environment. Finally, we should mention ingenuity in turning the constituent parts of an ecosystem into resources (resourcefulness), i.e. adapting development to the specific circumstances of a given environment.

It is time to turn to technology. Where this is governed solely by the need to make a profit and is not subject to social control, it is a frequent cause of environmental degradation. If economic systems function in such a way as to permit business to retain profits and pass on social costs, there are few ecological barriers standing in the way of selecting technologies that are energy- and resource-guzzling, and highly pollutant, but effective on the purely economic level. Because of their multidimensional nature, however, technologies are a valuable area for the harmonization of development goals, provided they are carefully screened through the application of several suitably selected criteria: economic, social, ecological, energy, etc. The search for appropriate technology therefore begins with clarification of those of the given technology's dimensions which are thought to be relevant, and of the evaluation criteria selected in such a way as to take account of particular economic, social and ecological contexts. Contrary to widespread opinion, a given technology, like a product, can only be appropriate in relation to a specific style of development and to a given situation. It is likewise a mistake to reduce the discussion on appropriate technologies to the sub-area of rural technologies. Obviously, these have an important function in the development of the Third World, but there is no reason why an identical selection procedure should not be

applied over the whole range of requisite technologies, both rural and urban, agricultural and industrial, labour-intensive and capital-intensive. Development strategy, then, calls for the management of technological pluralism. In general, an appropriate technology is one which permits sustained use of the potentially abundant resources in an ecosystem to meet fundamental community needs. But a technology always implies an institutional context, and specific production ties that have grown up among producers. The clarification of this link between technologies and social organization come into the picture as well.

The two prime goals of a technological policy designed to bring socio-economic objectives into line with ecological ones are, in respect of product technologies, selection of the range of the most useful products and modification of their useful lives; then, as regards production process technologies, the search for clean manufacturing techniques, i.e. cutting their ecologically harmful effects to a minimum, rather than launching into the escalating movement of production, pollution and pollution-abatement, which would result in a steadily increasing portion of the Gross National Product being diverted to the purely defensive activity that pollution-abatement constitutes. In practice, the search for clean manufacturing techniques leads to the planning of production systems that function as true systems, that is, employing waste products from one link in the production chain as raw materials for the next link. The key word here is complementarity at the system level, whereas we are too often inclined to seek specialization in fragmented production units. In other words, ecology suggests to the planner, the development economist and the town-planner the idea of the metaphorical use of an ecosystem as a paradigm for production systems and human institutions. By the same token it induces them to consider the inputs and outputs of these systems created by man in the image of natural ecosystems so that co-ordination with

the most important natural cycles can be achieved as harmoniously as possible.

Ecodevelopment claims to be the practical side of the harmonization effort suggested above, an effort to keep meeting the basic needs of the communities concerned while establishing true symbiosis between man and planet. Unlike out-and-out conservationists, the 'ecodeveloper' will not hesitate to alter nature, but in doing so he will strive to imitate and respect the laws of nature.

While rejecting spectacular but fallacious economic progress, which consists in incorporating entire slices of nature's capital in the national income, he will endeavour to tap the stream of renewable resources, while making sure that the conditions for their renewal are maintained. This will lead him to consider the management of the foundations of renewable resources, such as water, soils and forests, and to take action regarding land-tenure systems and the ways in which resources are appropriated, publicly and privately. To cite just one example, effective control over soil erosion in many Third World countries is obtained by eliminating the minifundium. Do we have the right, and above all, is there any sense, to talk about diachronic solidarity with future generations to a poor peasant who is trying to provide for his survival and that of his own family by overworking a miserable patch of land on a steep hillside while the fertile valley bottom is used as pasture for the cattle of the *latifundista*? The establishment of a new relationship between man and nature presupposes the simultaneous if not preliminary humanization of relationships between men.

Ecodevelopment is a planning approach which carries over into both cultural anthropology and ecology or, if the fashionable phrase is to be preferred, into cultural ecology. In contrast to catch-all solutions, it argues for the individuality of ecosystems, the uniqueness of cultural contexts and the many possible paths of development.

Having said that, the approach it puts forward, the harmonization activities it seeks, are of a general nature. At the very least, the questions to be asked from the outset and its variables remain largely the same whether we are concerned with industrialized countries or those of the Third World. The situations and hence the responses will obviously differ widely. But surely the role of theories in the social sciences is to give assistance in asking the right questions? At all events, it should be doubly stressed that the problem of integrating socio-economic and ecological goals is perfectly relevant to the countries of the Third World, for the following reasons, even though these countries have not yet reached a high level of industrialization.

In the first place because there is a pollution of poverty and by poverty, different from the pollution produced by urban and industrial affluence, but very real. Second, because the mimetic maldevelopment of many countries in the Third World has, particularly in the cities, brought in its train Western industrial civilization with all the latter's harmful features as regards the environment, the only difference being that the social contrasts are even more glaring while the means available for a policy to restore the quality of life are necessarily very restricted. Finally, because more equitable access to the resources of the planet, their management and their utilization for development aims are a vital element in the disagreement between the countries of the Third World and the industrialized nations. The environment, development and the new international order are thus very closely interlinked. For the countries of the Third World, the choice is between maldevelopment in the image of the industrialized nations or endogenous development centred on the logic of needs, in harmony with the environment.

Thus we feel that development and environment are two interconnected concepts, with the en-

vironment being to all intents and purposes an additional dimension of development. Though this is obviously a constraint, it also forms a resource potential, provided it is approached in an imaginative way.

This manner of viewing things is bound to shock the traditionalists whether they are development economists or nature conservationists. It implies a new transdisciplinarity. The environment, in the widest sense of the term, has a natural component and a cultural aspect. As a result, the planner must have recourse to cultural ecology. The desire for effectiveness then demands that he should associate the communities in question with his task, they being the very people who have intimate knowledge and practical experience of their surroundings and their culture, who know or may know what specific content and what organizational forms need to be given to their development. Ecodevelopment is only possible in a context of real participation. In this way we are again brought back to the problem of a new distribution of power among the community at large, commerce and the State. Such planning must, however, also have recourse to a range of new knowledge and concepts that we have tried to introduce in the course of the present article and must, above all, test the art of contextual planning: the goals aimed at as regards environmental quality require a modification of social demand and the simultaneous redefinition of policies in the management of space, energy, resources and technologies. In its turn, environmental quality often turns out to be the least cumbersome way of attaining the goal set regarding social demand (where health is concerned, for example).

It must not be thought that these approaches can become operational without a sustained educational effort at every level: for example, by awakening public interest in the problems

we have set out, in what is at stake and the potential for action; introducing cultural ecology into secondary and perhaps even primary education; carrying out a drastic review of vocational training programmes and higher education courses for economists, managers, architects and town-planners, engineers, etc. If eco-development is to be introduced, it is imperative to forge close links between education, research and specific activities in the field. During a visit to the Autonomous Metropolitan University of Xochimilco in Mexico City, I was given a poster by the students. The poster shows in the background the magnificent university building and in the foreground, a shanty-town through which one has to pass to get to the university. In large letters, the poster proclaims 'Reality lies at the corner of the street' and adds: 'The universities' work must be based on the needs of the communities financing them.' I know of no education programme more succinct and more in line with the eco-development approach.

Notes

1. *What Now?* (The Dag Hammarskjöld Report), prepared on the occasion of the Seventh Special Session of the United Nations General Assembly, New York, 1-12 September 1975.
2. Though institutionally the countries in question were better placed to exercise ecological prudence, what they also required was the political will to do so, which they do not seem to have had until recently.
3. One of a number of values, obviously, forming part of a more comprehensive axiology.
4. To do so, it would be necessary to bring human activities to a halt. But we have not yet arrived at the point where mass euthanasia of mankind is required.
5. Except if we speak in terms of colonizing other planets which would send us into the realm of science fiction, an escapist and groundless way out! There is so much to be done down here before launching out into the conquest of the planets!
6. Through the combined effect of overheating the atmosphere and waters, and through the excessive production of carbon dioxide.

READING 2

FOUR EDUCATIONS IN ONE

Greig, S., Pike, G. and Selby, D. (1987) *Earthrights: Education as if the Planet Really Mattered*, WWF / Kogan Page, London, 23-37.

Development education, environmental education, human rights education and peace education are four recent initiatives that have addressed the above – and related – questions. Each initiative has tried to influence the education system by setting up teachers' networks, publicising examples of noteworthy practice and making available good classroom resources. In response to this proliferation of 'educations', there have also been important developments aimed at clustering them all under a more inclusive title such as 'world studies' or 'global education'. Such developments recognise the difficulty even the committed teacher has in coming to terms with and implementing so many 'educations', however important she considers each to be. They also recognise that, whilst each 'education' has its own distinctive features and starting points, their concerns are finally mutual and overlapping. Questions concerning the development of human communities and environmental conservation cannot be separated on the world stage, or in the classroom.

Development education

Development education grew out of the mounting concern of charitable organisations, the churches and the United Nations over 'Third World' poverty. This led, particularly in the 1960s and early 1970s, to courses and course units which focussed exclusively upon the plight of chosen 'Third World' countries. From these origins thinking has progressively become much more sophisticated and diversified so that the following perspectives and insights are now all strongly represented in the field:

- ☐ to understand the level of development in a particular country, the impact of global economic and political systems has also to be studied;
- ☐ development education is about understanding development processes within and between all countries, rich and poor;
- ☐ what is appropriate development in one context is not necessarily appropriate in another;
- ☐ those in the West have much to learn from non-Western perspectives on development;
- ☐ the 'Third World' is not just a term to describe economically poor nations, but also encompasses areas and groups that have been marginalised by the workings of economic and political systems (e.g. women, the aged, the homeless, the unemployed, ethnic minorities, indigenous peoples, and poor, remote or uninfluential parts of wealthy countries).

The influential Brandt Report, *North-South* (1980), with its emphasis upon the interdependent nature of the contemporary world, did much to help quicken the shift from a narrow to a broad-focus conception of development education. The statement drawn up at the second national conference of the National Association of Development Education Centres (see this page) provides a succinct statement of that broad focus and pinpoints the importance of promoting knowledge, skills and attitudes which will enable individuals better to influence their world.

Environmental education

In the United Kingdom, the term 'environmental education' was first coined in 1965. It, too, has both a narrow and broad focus. Teachers at the narrow focus have tended to concentrate their teaching upon the local environment, natural and human-made, or upon the purely biological or geographical aspects of environmental study. The call for a much more holistic and biopolitical approach was made at the U.N. Intergovernmental Conference on Environmental Education in Tbilisi, U.S.S.R., in 1977 (see this page) and, again, when the World Wildlife Fund, the United Nations Environment Programme and the International Union for the Conservation of Nature and Natural Resources jointly launched the *World Conservation Strategy* in 1980. The *Strategy*, which appeared hard on the heels of the Brandt Report, underlined the interdependent nature of all components of the biosphere, including human communities, and thus directly linked the future of the planet's life-support systems to human behaviour and development decisions. 'A new ethic, embracing plants and animals as well as people is required for human societies to live in harmony with the natural world on which they depend for survival and well-being,' the *Strategy* urged. 'The long term task of environmental education is to foster or reinforce attitudes and behaviour compatible with this new ethic.'

What the Brandt Report did for development education, the *World Conservation Strategy* has done for environmental education. In the 1980s teaching and learning about the environment is increasingly marked by:

- ☐ a recognition that the local environment is caught up in the global ecosystem;
- ☐ an awareness that human and natural systems interact in myriad ways and that there is no part of human activity which does not have a bearing on the environment and vice versa;
- ☐ a dawning acknowledgement of how much we can learn from other cultures and, perhaps especially, indigenous peoples, about how to relate to the environment;
- ☐ an emphasis on the development of environment-friendly values, attitudes and skills (including, very importantly, those skills appropriate to influencing public opinion and political decision making).

Human rights education

Human rights education has long enjoyed high-level support from international organisations, such as the United Nations and the Council of Europe, but only recently has that support begun to be translated into good practice undertaken by real teachers with real students in real schools.

The teaching of human rights in the United Kingdom has often adopted a narrow focus. *Civil and political rights* (i.e. individual freedoms such as freedom of speech and freedom of movement) have been the main object of study with relatively little attention given to *social and economic rights* (i.e. those that ensure material and bodily well-being, such as the right to food and shelter). There has also been a rather uncritical acceptance of Western individualistic notions of rights and some reluctance to stray beyond those laid down in key international documents such as the *Universal Declaration of Human Rights* (1948). Those teaching to a narrow rights focus have insufficiently recognised that *new rights, reflecting new human pre-occupations, need constantly to be identified*. Broad focus rights educators, on the other hand, have shown a preparedness to broaden their teaching to include non-Western concepts of rights and new rights issues that have emerged subsequent to the major international documents, such as racism, sexism, the right to development and the rights implications of environmental abuse.

Peace education

The original 1960s' focus of concern of peace education – with the horrors of the Second World War not long past and the arms race in full swing – was studying war and disarmament. Teachers also looked for ways in which schools could help create more positive attitudes to the peoples of other nations and so foster international understanding. Since the 1960s, the focus has broadened to include not only *negative peace* (i.e. absence of war) but also *positive peace* (i.e. ways of creating more just structures in and between societies). A society or world characterised by injustice, oppression and exploitation may seem superficially peaceful in the absence of actual physical violence but a 'masked violence is constantly done to the rights and lives of human beings'⁷⁷. Broad-focus peace educators in the 1980s would, therefore, include questions of violence/non-violence, poverty/economic welfare and injustice/justice within their working definition. They would also embrace the study of conflict, conflict avoidance and resolution between individuals, groups and nations. Finally, they would want to explore the question of humanity's relationship with the environment and encourage their students to consider whether and in what ways we need to modify our behaviours, expectations and values so as to bring greater harmony (peacefulness) to that relationship.

Four educations? One education?

Interestingly, the four 'educations' share relatively few and sometimes no mutual or overlapping concerns at their narrow focus (see fig. 1). A purely local or biological approach to environmental education, for instance, has little or nothing in common with studying poverty in the 'Third World' (narrow focus development education) or

with studying war and disarmament (narrow focus peace education). At their broad focus, however, there is an extremely marked degree of convergence between the four 'educations' to the point where it becomes difficult to conceive of them as discrete fields. Why is this?

1. *Those working at the broad focus have come to recognize that their respective principal concepts – development, environment, human rights and peace – are complementary, interdependent and mutually illuminating.*

For instance:

- ☐ development decisions for human communities cannot disregard their environmental impact without, in the short or long term, jeopardising human development;
 - ☐ environmental conservation is not contrary to development but an essential consideration if we are to work to create human lifestyles that are sustainable;
 - ☐ development is essentially about the realisation of material and non-material human rights just as undevelopment or distorted development and their effects – malnutrition, hunger, disease – involve rights denials;
 - ☐ making choices between different types of development and different environmental strategies will, almost inevitably, involve a particular interpretation and prioritisation of rights;
 - ☐ making wrong or risky choices about the environment will leave a sorry heritage for future generations – e.g. less productive land, less diversity of plant and animal life, less room for manoeuvre, fewer options – and thus involves rights questions of profound importance;
 - ☐ global conflict continues to impede massively our ability to meet the development needs of the whole human community; it also has devastating environmental effects.
2. *The thinking of those at the broad focus of each field is increasingly marked by a shift away from a compartmentalised view of reality to an acceptance of the interconnectedness of all things and what has been called the 'permeability of boundaries'.*

For instance:

- ☐ the local, national and global are viewed as different layers in a dynamic world system in which nothing finally makes sense save in relationship to everything else – the local, for instance, is in the global, the global in the local;
- ☐ personal change and planetary change are, accordingly, held to be deeply interwoven processes;
- ☐ past, present and future are conceived as being in dynamic relationship – real learning therefore involves looking to the future as well as at the present and past since our view of the future infuses how we see everything else.

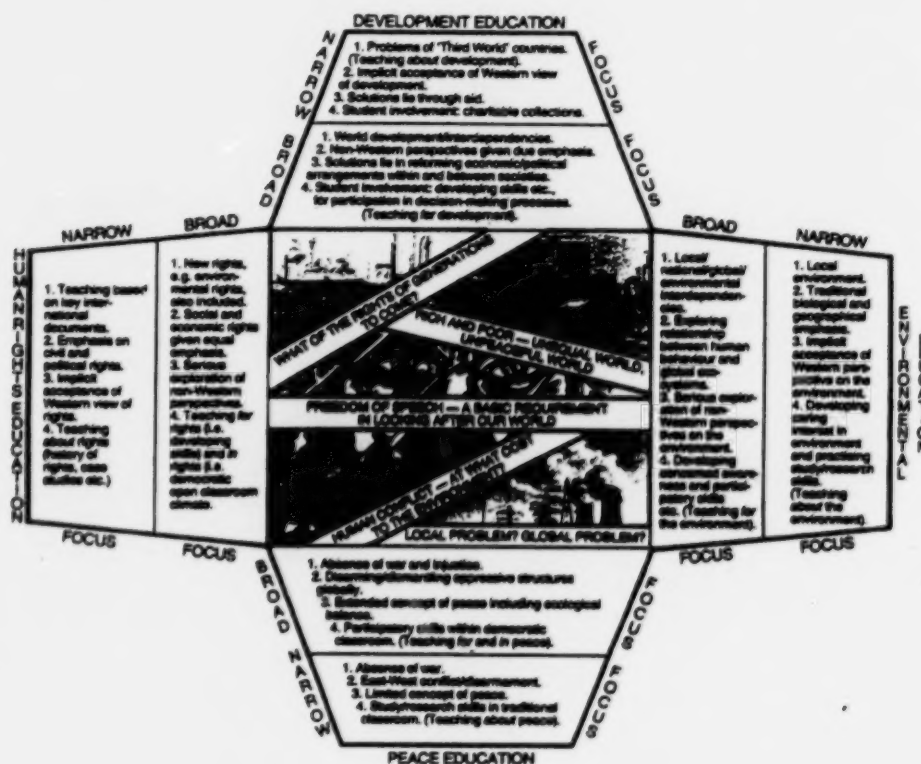
A common acknowledgement of the 'permeability of boundaries' also explains why those at the broad focus:

- ☐ emphasise the importance of interdisciplinary approaches and call for the infusion of the whole school curriculum with a global perspective;
 - ☐ seek a more thoroughgoing integration of school and community through greater involvement of the community in school life and through an expansion of in-community learning opportunities;
 - ☐ regard education as a lifelong process infusing every aspect of human activity rather than as a part of life that ends with leaving school, college or university.
3. *The broad focus position within each of the four 'educations' involves fostering the attitudes and practising the skills necessary for active participation in the political process. Such attitudes and skills are empowering and vital if students are to become subjects rather than objects in their own history.*

This is why such great emphasis is laid upon participatory learning and upon creating a humane, open and democratic classroom marked by high levels of self and group esteem, co-operation, debate, discussion and negotiation (see pages 51-57).

A thought-provoking way to think about the four 'educations' is to see their relationship as *holographic*. A hologram is a three-dimensional 'photograph' created by laser technology. Amongst its most astonishing properties is that *the part contains the code of the whole*. Hence, a hologram of a face, if broken, can be reconstructed from, say, the hologram of the nose. Similarly, a maturer and more comprehensive understanding of, for instance, environmental education will, whatever the nature of one's initial interest, inevitably lead to questions of development, rights, culture, race, gender and peaceful and conflictual relationships. *The field carries the code of the whole; it can be conceived of as both part of the whole and the whole.*

Figure 1



READING 3

TEACHER EDUCATION: THE PRIORITY OF PRIORITIES

Tilbury, D. (1992) Environmental education within pre-service teacher education: The priority of priorities, *International Journal of Environmental Education and Information*, 11 (4), 267-280.

1. THE ROLE OF TEACHER EDUCATION IN ENVIRONMENTAL IMPROVEMENT

"The key to successful environmental education is the classroom teacher. If teachers do not have the knowledge, skills and commitment to environmentalize their curriculum, it is unlikely that environmentally literate students will be produced."

(Wilke, 1985 (p.1))

The role of teacher education in environmental improvement is well documented. Specifically, the Tbilisi Intergovernmental Conference (UNESCO, 1977a) highlighted its importance by maintaining that the future of the environment may depend upon the ability of teacher education to incorporate and practise an effective environmental education curriculum. It recognised that the introduction of environmental education into schools greatly depended on the extent of training which teachers had received in this field. It argued this on the basis that:

"It is obvious that even the best curricula and the best teaching materials cannot have the desired effect if those with responsibility for them have not fully understood the objectives of environmental education and if they are not capable of directing the learning activities and experiments comprising such education or of effectively using the materials available to them."

(UNESCO, 1980a (p.47))

Many writers, such as Selim (1977) and Wilke (1985), have echoed these sentiments in the past, as they have understood that any possibility of incorporating environmental education into the formal education curriculum depends essentially on the training of the personnel responsible for teaching this curriculum.

Other authors in the field (Neal, 1985; Mishra *et al.*, 1985; Sterling, 1987; Cendero, 1989) have highlighted the vital role of teacher education by arguing not only that it equips teachers to teach environmental education effectively but also that it acts as a stimulus to its introduction into the school curriculum. They anticipate that the development of an effective teacher training course in environmental education would result in a top-down curriculum innovation approach. These writers perceive teacher education in the field, for both primary and secondary school teachers, as the most effective means to reach an acceptable level of environmental education among the population.

Furthermore, it is argued that special training and commitment are necessary to bring the environmental thrust into education, since environmental education requires a new focus and outlook within education which prospective teachers may not have passed through their own education life (Halverson, 1982; Mishra *et al.*, 1985). This new outlook has been described as the exploration of "a new personal and individualized behaviour based on the 'global ethic' which can be realised only through the enlightenment and training of educational professionals" (Simpson *et al.*, 1988 (p.17)). Thus, it is argued that a teacher cannot teach environmental education effectively solely by obtaining information on environmental concerns. Instead:

"Intensive teacher education, not merely orientation, is essential if the present fragmented approaches of traditional education are to be transcended in favour of a holistic, global approach, and inter-disciplinary and multi-disciplinary treatment of issues. It would require a thorough change in both the outlook and preparation of teachers and teacher educators ... The task is more complex than putting environmental content into existing curricula."

(Simpson *et al.*, 1988 (p.17))

UNESCO has an ambitious role for teacher education, perceiving it as "potentially the greatest source of educational change in an organised, orderly society" (UNESCO, 1976). Effective teacher education in the field, it argues, will produce an environmentally literate population which in turn will result in environmental action. It thus sees the incorporation of environmental education into teacher training as crucial, not only to the future of the discipline but also to the future of the environment. Not surprisingly, UNESCO has recently referred to teacher education as "the priority of priorities" (UNESCO-UNEP, 1990). UNESCO's interpretation of the role of teacher education in environmental improvement reflects a growing international and intergovernmental recognition of the need to train teachers in the field.

2. INTERNATIONAL RECOGNITION OF THE NEED FOR TEACHER EDUCATION IN ENVIRONMENTAL EDUCATION

Since 1970, a great number of both international and intergovernmental organisations and agencies have recognised the urgent need to develop environmental education in teacher education programmes. This has been documented in many conferences, such as the International Union for the Conservation of Nature and Natural Resources (IUCN) "Environmental Education" Conference (1971), the International Belgrade Workshop (1975), the Tbilisi Conference (1977), the Bergen Conference (1990) and the more recent "Earth Summit" (1992). Its importance was also attested to, when it was seen as "the most intense EE need and priority by nations of every region of the world in their response to a UNESCO questionnaire preceding the Belgrade Workshop (81%)" (UNESCO-UNEP, 1990 (p.1)).

The earliest recorded international concern for adequate teacher training in the field of environmental education was expressed at a European IUCN conference held in Switzerland in 1971. At this

"Environmental Education" conference, the representatives of over a hundred countries highlighted the importance of teacher education:

"We recognize that teacher training forms one of the most important and significant aspects in the development of environmental education programmes and we recommend that:

- (a) the training of teachers provide them with essential basic knowledge of ecological facts and an adequate background of sociology and its relationship to human ecology;
- (b) efforts should be made to develop in teachers a critical awareness of environmental problems to enable them to provoke responsible attitudes concerning environmental matters in their pupils;
- (c) environmental conservation is recognised as an essential part of the teacher training and that developments started in pre-service training should be continued by in-service training;
- (d) as teacher training in environmental education involves the use of many techniques and methods, all prospective teachers should be given training in the use and evaluation of pedagogic methods, including those relating to inter-disciplinary approaches and team teaching;
- (e) media banks be established at the national and international level for the exchange of information, training aids and teaching materials."

(IUCN, 1972 (p.3))

Later, in 1975, the Belgrade Charter, which arose from the International Workshop, identified teachers as one of "the principal audiences of environmental education". It called for the development of well-designed programmes aimed at educating teachers in this field. More significantly, "The Charter" provided a starting point for establishing appropriate principles for the design and development of a teacher education curriculum.

The need for teacher training in environmental education was also expressed at UNESCO-sponsored regional meetings during 1976-77. The training of teacher personnel was seen by participants at all regional meetings as one of the most fundamental aspects of environmental education. At the Arab States regional meeting held in Kuwait in 1976, it was concluded that "... the principal need for the further development of environmental education was seen as the re-training of teachers and leaders; recommendations were made to urge the strengthening of existing training programmes and the creation of new ones" (UNESCO, 1977b).

Wilke *et al.* (1987) maintain that similar conclusions were arrived at in all regional meetings. These meetings led to the publication of *Needs and Priorities in Environmental Education: An International Survey* (UNESCO, 1977b). The survey documented the needs apparent

across countries and educational levels (pre-school, primary, secondary, tertiary) to train teaching personnel in environmental education.

Despite these earlier efforts, Wilke *et al.* (1987) believe that the first intergovernmental conference, convened by UNESCO in Tbilisi in 1977, was the most significant event leading to worldwide recognition of the need for teacher training in environmental education. Ministers at this intergovernmental conference unanimously agreed that environmental education should be an obligatory part of both pre-service and in-service teacher education and considered this "a priority activity" (UNESCO, 1978 (p.5)). One of the guiding principles laid down at Tbilisi argued that there was "a need to strengthen ordinary pre-service and in-service training programmes for teaching personnel aimed at making them capable of including an environmental component in their teaching activities" (UNESCO, 1980a (p.46)).

The Conference "Final Report" requested that states establish programmes of action at a national level. The purpose of these was to familiarise not only teachers but also educational administrators and planners with the different aspects and problems of the environment (UNESCO, 1978). Specifically, Resolutions 10 and 11 of the Tbilisi Declaration called upon these programmes to include a basic level of training for both in-service and pre-service, which would enable teachers to incorporate environmental education effectively into their activities. These conference recommendations were finally converted into a formal commitment for Europe in May 1988, when a major resolution was passed by the European Council Ministers of Education. In it, all member states committed themselves to:

- "(a) the promotion of environmental education in all sectors of education;
- (b) support provision for the development of teachers' knowledge of environmental matters in initial and in-service training."

(European Community, 1988 (p.8))

The resolution prompted developments in a number of European countries. In Britain, developments culminated in the publication of *This Common Inheritance* (Department of the Environment, 1990), the Government's "Environmental Strategy". The document not only acknowledged the need to train teachers in this field (para. 17.43) but also revealed that it had now become a requirement for pre-service teacher training courses to cover the teaching of environmental matters (para. 17.44). Furthermore, Government's commitment to its incorporation into teacher education programmes was illustrated by its instructions to the Council of Accreditation of Teacher Education (CATE) to ensure that these requirements are met (para. 17.44). As a result, teacher training institutions in England and Wales will finally need to respond to international calls for the inclusion of this area of learning into pre-service training.

These national developments were reviewed at the Bergen Conference in May 1990. The Bergen Ministerial Declaration, which arose out of this conference, further reinforced the need for a firm commitment to teacher training, if environmental education was to contribute towards environmental improvement.

The United Nations Conference on Environment and Development (UNCED) also highlighted the need for improving teacher education in the field. Agenda 21's Section IV on "education, public awareness and training" identified training as an important "programme area". In it, governments committed themselves "... to update or prepare strategies aimed at integrating environment and development as a cross-cutting issue into education at all levels within the next three years" (UNESCO-UNEP, 1992 (p.3)). The document specifically calls upon educational authorities to assist the development of pre-service and in-service training programmes which address the nature and methods of environmental and development education for all teachers (Section IV, First Programme Area).

3. ENVIRONMENTAL EDUCATION PROVISION WITHIN PRE-SERVICE TEACHER EDUCATION

"The impetus that concern for the environment has received in the past twenty years or so has not been entirely translated into action with respect to teacher education, in spite of the urgings and warnings of significant international reports and studies which attached great importance to the role and function of teacher education"

(Williams, 1985 (p.48))

Despite important conferences and growing international and national involvement in environmental education, relatively little has been accomplished. As a result, environmental education within teacher education remains more a policy than a practice.

Ministers attending the Tbilisi Conference in 1977 recognised important deficiencies in environmental education at the teacher training level and concluded that "few countries, if any, adequately prepare teachers to effectively achieve the goals of environmental education in their classrooms" (UNESCO, 1978). As a result, they unanimously agreed that environmental education should be an obligatory part of both pre- and in-service teacher education. Yet, over a decade later, this is "still to be universally applied" (UNESCO-UNEP, 1990).

A literature review of the provision of environmental education within teacher education reveals that not much has changed over the past thirteen years. Both developed and developing countries alike are seen as experiencing what Selim (1977) then described as "... a gap between a clearly perceived international commitment and an inadequate degree of practical implementation" (p.129).

At the same time, pre-service and in-service preparation programmes in environmental education were relatively scarce and poorly developed. Selim (1977) argues that:

"Well developed and strongly supported curricula in environmental education for students training to be teachers do not pervade tertiary level institutions ... such efforts seem to be limited to individual exemplary programs dotted around the globe."

(Selim, 1977 (p.129))

Sufficient data exists to indicate that not much has changed since then (Coon, 1980; Peyton and Hungerford, 1980; Stapp *et al.*, 1980; UNESCO, 1980b; Jacobson, 1986; Williams, 1985; Mishra *et al.*, 1985; Williams, 1988; Simpson *et al.*, 1988; Hart, 1990; Williams, 1992).

Mishra *et al.* (1985) described the situation in initial teacher education with respect to environmental education as extremely "desperate". Wilke *et al.* (1987) claim that the number of effective environmental education teacher training programmes in the world is far below the acceptable level. This is a view shared by Peyton and Hungerford (1980) and Simpson *et al.* (1988), who believe that there is a critical worldwide shortage of teachers with the necessary competencies to incorporate the environmental dimension into education effectively.

Various authors have suggested that pre-service teacher training efforts in environmental education greatly vary, not only from nation to nation but also from institution to institution within nations (Wilke *et al.*, 1987; Selim, 1977; Peyton and Hungerford, 1980; Mishra *et al.*, 1985). Programmes differ in structure, approaches, facilities and even duration. Yet the situation is as Selim described it in 1977; programmes are still inadequately developed.

Wilke *et al.* (1987) cite countries like Columbia, Bulgaria, Thailand and Russia, where initial teacher education courses in the field are compulsory for all pre-service students. In these courses environmental education takes the form of the conservation of natural resources. Despite the prominence of environmental education in these programmes, Wilke *et al.* (1987) argue that in most cases the training provided is still not sufficient to "... develop the gamut of competencies needed to infuse the environmental dimension into their teaching" (p.6).

UNESCO (1977c) not only noted that relatively few efforts had been made within teacher education, but also went further to identify inadequacies within the teaching programmes at the time. Most of the courses were perceived as lacking a holistic conception of the environmental situation. The programmes were also criticized because they did not encourage the development of any inter-disciplinary techniques or team-work. Their methodology was particularly seen as inappropriate since they "... did not take into account the modern educational ideas of participation, research and experimentation of methods, of evaluation indispensable for learning-centred education" (p.23).

Schwabb (1976) had earlier reported similar findings which pointed to the inadequate methods training being provided by the institutions of higher education.

Coon (1980), who studied a varied selection of American case studies of teacher education programmes, found evidence which "... supports the contention that few undergraduate programmes in teacher education give much attention to ... the process involved in studying major environmental questions (p.20). He highlighted how students were inadequately prepared for the methodological and pedagogical aspects of environmental education.

Also in 1980, the German Commission for UNESCO organised a workshop entitled "Environmental Education in Europe", which reviewed provision within European institutions. The Commission arrived at the same conclusions as Coon did in America, pointing to the lack of active learning approaches and inter-disciplinary training. At the workshop it was noted that:

"The issue of providing environmental education during training is generally dealt with by integrating environmental topics into existing subjects that the students would consequently teach themselves, e.g. biology and geography."

(UNESCO, 1980b (p.10))

They highlighted the prominence of the natural science and geographical approach to environmental study, as well as the lack of affective aims within existing syllabuses.

Stapp *et al.* (1980) carried out another survey in Europe which focused on pre-service teacher training courses. The research findings also pointed to inadequacies within the methodological aspects of programmes. They argued that, although many institutions recognise the need for inter-disciplinary methodological training, very few can adequately address this need, finding that traditional discipline-orientated education approaches are frequent, especially in countries like Bulgaria, France, Norway and Sweden. They also found that "... few courses would allow students to develop problem-solving skills" (p.4).

The research reinforced earlier findings, pointing to the dominance of the traditional approaches to teaching. This, they argued, encouraged student teachers to become solely concerned with learning environmental knowledge and then with the transfer of this information on to the student through the "lecture approach". This approach was based on the assertion that there is a linear correlation between the acquisition of ecological knowledge, the development of environmental attitudes and the adoption of environmental ethical behaviour. Current research strongly indicates that this may not be the case (Wilke *et al.*, 1987).

Stapp *et al.* (1980) also found that this problem was accentuated in the later primary years' programmes, where there was a heavier emphasis on "cognitive environmental knowledge" - more so than within secondary level courses.

Later, Williams (1988) also surveyed the environmental education provision within teacher training courses in Europe. In Stage I of his *Teacher Education Global Environment* project, he pointed to the failure of teacher education to introduce students adequately to major ecological problems. Williams also discovered that in most European countries environmental education within teacher training is "... still an option to be chosen rather than as a core element within an integrated programme" (p.3). His findings echoed those of the German Commission:

"... initial or pre-service courses in environmental studies consist of a mixture of geography, history and some biology. Specialist subject courses such as geography and biology remain the main vehicle for preparing teachers in secondary schools."

(Williams, 1988 (p.4))

He discovered that the natural sciences remained influential in terms of subject matter and approach, with their emphasis on field study, scientific methods and the investigation and analysis of particular areas of knowledge. His research also reinforced earlier findings (UNESCO, 1977a; UNESCO, 1980b; Stapp et al., 1980), which pointed to the lack of an inter-disciplinary approach within teacher education courses.

Williams maintained that environmental education had become a sub-contracted element within another discipline or subject area and saw this as inappropriate. He believed that this had led to an imbalance in approach, and fragmentation of meaning:

"... providing an insular interpretive framework for investigation and analysis of issues and problems. Further, it has reduced the scope of the substance and the methodology of the area of study by eschewing inter-disciplinarity in approach and synopsis in the evaluation of content."

(Williams, 1988 (p.3))

He also called for research to be undertaken into the constraints and difficulties of implementing cross-curricular areas of learning into subject structures that fragment and compartmentalise knowledge and thus threaten the holistic element of environmental education.

Williams believed that the controversial nature of environmental education had led to the development of this "selective curriculum", where only certain methods and knowledge were taught. Furthermore, his findings indicated that courses avoided linking environmental education with other controversial areas of study and omitted consideration of political, economic, ideological and cultural perspectives. He argued that the result of this is that:

"... the espousal and advocacy of a holistic, critical education approach to teaching about environment and development within the school curriculum has in itself become a controversial, political issue. The consequence of this has been to play it safe; environmental studies or environmental science, being the acceptable substitutes or alternatives, bury the problems within legitimate subjects."

(Williams, 1988 (p.4))

This belief echoes those of many researchers who have found that this situation predominates in school curricula (Greenall, 1981; Maher, 1986; Robottom, 1987). The project concludes that at present only limited space can be found for global concerns within teacher education courses.

Although most of this research does not distinguish between provision within primary or secondary teacher training courses, evidence can be found to suggest that the greatest inadequacies occur in the training of the generalist primary school teacher (Stapp *et al.*, 1980; Gayford, 1987; Finlayson, 1987). These courses place more emphasis on providing environmental information, especially about the natural environment, rather than considering environmental education approaches and methodologies. Furthermore, they stress the cognitive elements at the expense of the affective components of environmental education.

4. THE MIDDLE YEARS OF SCHOOLING

The importance of the middle years of schooling (8-12) in the education of the child has been grossly under-estimated. It is an area which has received little attention in the field of environmental education. The lack of interest in environmental education at this stage, and the under-estimation of the importance of these crucial years, may account for pronounced inadequacies within courses which train teachers for this level.

The lack of appropriate teacher training courses within the field is of great significance to environmental education. The middle learning years can prove to be critical for the environmental education of the child. Attitudes towards the environment are generally acquired very early in life (UNESCO, 1977d; Stapp, 1978; Gayford, 1987). Research has indicated that the middle years of schooling are the formative years for development of environmental attitudes (Knapp, 1972; De Cortes, 1986). The young learners develop most of their "... final adult physio-neurological capacity quite early in life, and therefore learning, especially of attitudes and values so important to imaginative action in environmental problems, is vital and needs to be considered carefully early in these sequences of lifelong learning" (UNESCO, 1977d (p.88)).

Thus, crucial to the future of environmental education is the need to correct the existing situation within primary education courses.

5. CONCLUSION - RESEARCH INTO ENVIRONMENTAL EDUCATION IN THE MIDDLE YEARS

Despite the recognised need to address effectively environmental education within pre-service teacher training courses, research indicates that provision is unsatisfactory. The lack of a firm research base (Sterling, 1984 and 1992) in environmental education accounts for such an inadequate provision.

Environmental education as a whole has not experienced the benefits of widespread research. Thus, not surprisingly, specific information on environmental education is hard to find, and when the information needs to be narrowed down to the area of teacher education, then the task of eliciting such information becomes even more difficult.

Teacher educators have the tough task of introducing an element into the teacher curriculum without much help or guidance from literature or research. As a result, environmental education within teacher education seems to be searching for its own identity, forms of

implementation, methods and content - a process which many teacher educators argue will last many years and which will prevent courses from effectively addressing environmental concerns for some time yet (Education Network for Environment and Development, 1991).

One means of achieving some advance in these matters is research which addresses the complexities found within teacher training institutions. Research studies specific to this level of training are needed.

Previous research has addressed the crucial question of what foundations should be laid for this discipline, as well as what environmental content and pedagogical considerations are necessary for preparing students effectively to teach environmental education (see Stapp, 1978, Caduto, 1985; Williams, 1985; Jacobson, 1986; Hungerford and Ramsey, 1989) but these have been too idealistic, technical and/or unconcerned with the demands and pressures which exist within teacher training institutions.

Basic teacher competencies have also been identified by previous authors (Stapp *et al.*, 1980; Wilke *et al.*, 1987; Simpson *et al.*, 1988; UNESCO-UNEP, 1990) but these suffer from the same problem - they are often too content-laden and technical and thus of limited use to pre-service teacher education. Furthermore, these competencies have not been accompanied by guidelines, which could inform curriculum developers of where and how they could be incorporated into the teacher education curricula.

Other models which have been devised for pre-service teacher education focus essentially on developing specialisation courses within teacher training, while others cater for programmes organised along disciplinary lines like that in the secondary curricula (UNESCO, 1985; Marcinkowski *et al.*, 1990) and are thus inappropriate for preparing the generalist primary school teacher.

The basic competencies model of Wilke *et al.* (1987) goes a step further in that it attempts to provide a "layman's" interpretation of the previously defined competencies and includes a small section on infusing environmental education into the teacher education curricula. Yet, its crude distinction between primary and secondary does not recognise the importance of the middle years of schooling (8-12) and is thus also inadequate. This is also the case with the Hungerford *et al.* (1988) model, which, although it specializes at the "elementary" level, also fails to identify and address the critical elements of this stage.

Essentially, teacher education needs a realistic model for environmental education - a model which is not only realistic for the highly complex nature of the environmental needs of a child in the middle years of schooling but which also recognises the intricacies of teacher education institutions. Furthermore, this model should be accompanied by sound strategies which will ensure its development at this level. Such a model would appeal to teacher educators and curriculum developers and facilitate the process of introducing environmental education into pre-service training.

If UNESCO's assertion is correct, and effective teacher education results in an environmentally literate population and ultimately in environmental action, then it would be right to argue that the future of the environment may depend upon further research into environmental education at this level

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Fax: (07) 857 2173

Ideas Centre (NSW)
8th Floor 8-24 Kippax Street, Surrey
Hills, NSW 2010. Ph: (02) 281 8099

**One World Learning Centre
(ACT)**
PO Box 779, Jamison Centre, Can-
berra, ACT 2614. Ph: (06) 251 6071
Fax: (06) 205 6576

One World Centre (WA)
3rd Floor 79 Sterling Street, Perth
WA 6000. Ph: (09) 220 0629

**South Australian Development
Education Centre (SA)**
First Floor, 155 Pirire Street, Ad-
elaide, SA 5000. Ph: (08) 223 5795

Tasdec (TAS)
4 Battery Square, Battery Point,
Hobart, Tas. 7000. Ph: (002) 34 4867

2. DEVELOPMENT CONTACTS

Action For World Development
124 Napier Street, PO Box 117,
Fitzroy, 3065. Ph: (03) 419 5588

Amnesty International
PO Box A159., Sydney South, NSW
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Austcare
PO Box K 359, Haymarket, NSW
2000. Ph: (02) 212 2188

Australian Catholic Relief
154 Elizabeth Street, Sydney, NSW
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Australian Council of Churches
Box C199 Clarence St PO, Sydney,
NSW 2000. Ph: (02) 29 2215

**Australian Council for Overseas
Aid**
Private Bag 3, Deakin, ACT 2600.
Ph: (06) 285 1816

**Committee for Solidarity with
Latin America and The
Caribbean**
PO Box A431, Sydney South, NSW
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Community Aid Abroad
156 George Street, Fitzroy, VIC
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Foster Parents Plan of Australia
2 Highbury Grove, PO Box 188,
Kew, VIC 3101. Ph: (03) 862 1077

Hunger Project
63 Albion St, Surry Hills, NSW
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**International Women's
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193 Smith Street, Fitzroy, VIC 3065.
Ph: (03) 419 3004 Fax: (03) 416
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Save The Children's Fund
56 Johnson St, Po Box 1281,
Collingwood, VIC 3066.
Ph: (03) 417 7662

Tear Fund
580 Glenferrie Road, Po Box 289,
Hawthorne, VIC 3122.
Ph: (03) 819 1900

**United Nations Association Of
Australia**
10 Sullivan Street, Higgins, ACT 2615.
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UNICEF
GPO Box K485 Haymarket, NSW
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World Vision
161 Sturt Street, South Melbourne,
VIC 3205. Ph: (03) 699 8522

3. ENVIRONMENT CONTACTS

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PO Box 81, Wentworth Building,
Sydney University, Camperdown
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**Australian and New Zealand
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GPO Box 787, Canberra ACT 2601.
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**Australian Consumers
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**Australian Council of National
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**Australian Trust for
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Queensland Conservation Council
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Wilderness Society
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INTRODUCTION *to* ENVIRONMENTAL EDUCATION

JOHN FIEN
GRIFFITH UNIVERSITY

INTRODUCTION

This workshop is one of the core modules in this series and provides an introduction to the nature and objectives of environmental education.

Environmental education is an across-the-curriculum approach to learning which helps individuals and groups to understand the ways in which people interact with their surroundings with the ultimate aim of developing caring and committed attitudes that will foster the desire and ability to act responsibly in the environment. Environment education is concerned not only with knowledge, but also with feelings, attitudes, skills and social action.

OUTCOMES

Through participation in the activities in this workshop, participants will develop:

- an understanding of the nature and scope of environmental education;
- an understanding of the objectives of education *about*, *in* and *for* the environment;
- an understanding of the relevance of environmental education to their areas of teaching;
- skills to evaluate environmental education activities; and
- the ability to plan themes and activities in environmental education relevant to their areas of teaching.

WORKSHOP OUTLINE

The workshop consists of a number of activities organised around three themes:

1. The Need for Environmental Education

An initiating activity based upon class discussion and a song.

2. What is Environmental Education?

This involves two games, "EC" and "Cooperative Cards", debriefing activities and a mini-lecture.

3. Environmental Education in Practice

This involves individual and group work to develop, evaluate and plan a number of environmental education themes and activities related to participants' interests in teaching.

The workshop ends with a review/consolidation of key themes.

MATERIALS REQUIRED A) PROVIDED

OVERHEAD TRANSPARENCY MASTERS:

- OHT 1: Workshop Overview
- OHT 2: The State of the Planet
- OHT 3: The "Three A's" of Environmental Education
- OHT 4: Definitions of Environmental Education
- OHT 5: Approaches to Environmental Education
- OHT 6: Objectives of Environmental Education
- OHT 7: Objective 1: Ecological Concepts
- OHT 8: Objective 2: People-Environment Concepts
- OHT 9: Objective 3: Investigation Skills
- OHT 10: Objective 4: Environmental Values
- OHT 11: Objective 5: Issues Analysis Skills
- OHT 12: Objective 6: Problem Solving Skills
- OHT 13: Objective 7: Taking Environmental Action
- OHT 14: Education for the Environment

RESOURCES:

- Resource 1: The "EC" Game
- Resource 2: Objectives of Environmental Education
- Resource 3: Windows on Seven Lessons
- Resource 4: Ideas for Learning about, in, and for the Environment

READINGS:

- Reading 1: Worldwide concern about the environment, *Our Planet*, 1 (2/3), 1990, pp. 14-15.
- Reading 2: Fien, J. (1988) *Australian Environment*, Bicentennial Australian Studies Schools Project Bulletin 6, Curriculum Development Centre, Canberra, pp. 6-15.

B) TO OBTAIN

Activity 1C: Copy of cassette *Solidarity For Survival. Songs on the Environment.*

Available from: Australian Catholic Relief, 19 MacKenzie Street,
North Sydney, 2060.

Phone: (02) 956 5799

Cost \$6 plus postage.

Activity 1D: Copy of video *Only One Earth* (optional).

Available from: Ideas Centre, PO Box A100, Sydney 2000.

Phone: (02) 281 8099.

Cost \$ 50 plus postage.

(A resource kit of the same name to accompany the video is available at an additional cost of \$45.)

Activity 2B: 5 playing-card size slips of paper/card per participant.

Activity 2D: Enlarge Resource 2 to A3 size.

ADDITIONAL READING

- Fien, J. (1988) *Australian Environment*, Bicentennial Australian Studies Schools Project Bulletin 6, Curriculum Development Centre, Canberra.
- Fien, J. (1993) *Education for the Environment: Critical Curriculum Theorising and Environmental Education*, Deakin University Press, Geelong.
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- Van Matre, S. (1990) *Earth Education: A New Beginning*, Institute for Earth Education, Warrenville, Illinois.

BEST COPY AVAILABLE



ACTIVITIES

1. INTRODUCTION

A. Overview

Introduce theme of workshop - "Environmental Education" - and outline sequence of activities. These are set out on OHT 1.

B. The Need for Environmental Education

Explain that:

- "The environment" is now a major local, national and community concern regularly ranking after "unemployment" and the "economy" in opinion polls.
- Young people are very aware and concerned about the state of the planet. See Reading 1 for background data to support these claims.

C. Environmental Issues

- Play the track titled "One World Blues" from the cassette "Solidarity for Survival" (available from Australian Catholic Relief). The song is a satirical look at many of Australia's environmental problems.
- Workshop leaders will know whether their groups would benefit from having access to the words whilst they listen to the song. Perhaps, the song could be played twice - once without words available followed by a discussion of the issues identified by participants, followed by a second playing with the words (which come with the cassette) available as an overhead transparency or as a handout. This can have a powerful reinforcing effect.
- Debriefing:
Explain that the environmental issues in the song have:
 - local manifestations - ask for examples.
 - global manifestations - ask for examples.Summarise some global problems as on OHT 2.
- If available, screen the introductory programme "Our Common Future" (12 minutes) from the video "Only One Earth". This overviews the scope of global environmental issues and the need for sustainable development.

2. WHAT IS ENVIRONMENTAL EDUCATION?

Reading 2 provides an overview of:

- the aims, objectives and guiding principles of environmental education.
- the three approaches of education *about*, *in* and *for* the environment.

Along with other sources in the reading list, this reading may be used as the basis for a lecture or seminar discussion. However, in order to model the processes of environmental education through the pedagogy we practise, it is recommended that the material be covered in the following interactive way:

A. The "EC" Game

"EC" is a game much like Bingo except that squares and lines are completed by participants moving around the room and seeking information from each other. Participants are given a copy of Resource 1 and are asked to fill in as many squares as possible by questioning other group members. Having found someone who can answer one of the questions, the name of the person and a brief answer are written

in the appropriate box. Each person's name can appear only once on the sheet. Each time a row of boxes (horizontally, vertically or diagonally) is completed, participants call out "EC" - just as in Bingo.

• Debriefing:

- After initial comments on personal responses to the game, participants are asked to suggest what the letters "EC" might represent.
- Many answers will be given but explain that the one of particular interest in this workshop is "Environmental Citizen".
- Explain that an "Environmental Citizen" lives by the "Three A's" of Environmental Education" (OHT 3):
 - Awareness and knowledge.
 - Attitudes and personal lifestyle decisions.
 - Action for a better environment.

B. Cooperative Cards Game

This group discussion/game has two objectives:

- It extends the three aims into a range of objectives for environmental education; and
- It models the cooperative processes that underlie the philosophy of environmental education.

Instructions

- Sit participants around tables (or on the floor) in groups of 5-6.
- Give each participant 5 slips of paper/card (approximately the size of a playing card).
- Ask participants to write their initials in a corner of each card.
- Then ask participants to use their knowledge of the "Three A's" or aims of environmental education to write 5 more detailed or specific objectives for environmental education - one for each card. (Some groups may need an explanation of the differences between the general nature of "aims" and the more specific nature of "objectives")
- When this is completed, all the cards in the group are pooled, shuffled and dealt (as in a game of cards), four to each "player". The remainder are placed face down in the middle.
- Explain that no talking or non-verbal communication of any kind is allowed.
- Taking turns, players pick up one card and discard one card.
- The aim is for all players to have five approved cards, none of which they wish to discard.
- Players examine their cards to see which ones need to be discarded when it comes to their turn in the game. Cards to be discarded include (a) ones participants wrote themselves as evidenced by their initials, and (b) ones they believe are less important than the objectives they wrote themselves.
- The game may come to a standstill when some players have five cards (full hands) and others are unwilling/unable to retain cards in the middle of the table. Remind participants of the "no communication" rule.

There are no rules to tell participants what to do at these impasses. The silence causes reflection. Usually, one or more players with a full hand will re-enter the game by discarding one, and through this generosity help everyone in the group obtain a full hand.

Debriefing:

- After initial comments on personal responses to the game, focus participant attention on the assumptions about the cooperative process in the game and how this links to environmental education and related approaches such as development education, global education, and peace education.
- Tell participants that the next stage of debriefing will follow a mini-lecture. Ask them to remain in their groups and to keep their cards for the second stage of the debriefing.

C. Mini-lecture

Use the information from Reading 2 to present a 15 minute mini-lecture on the definition, aims and objectives of environmental education. OHTs 4-6 may be used in this.

D. Classifying Objectives

In this activity participants categorise their "Cooperative Cards" objectives cards according to the seven objectives of environmental education outlined in the mini-lecture (OHT 6).

- Ask participants to pool their cards.
 - Distribute a copy of Resource 2 (enlarged to A3 size) to each group.
 - Ask the groups to classify their cards according to the objectives of environmental education by placing each one in the appropriate column of Resource 2.
 - Give each group 10 extra blank cards.
 - Tell the groups they need to have a minimum of 5 cards in each of the 7 columns. They are able to write new objectives (as a group) on the blank cards to fulfil this task.
 - When this is finished, conduct a discussion that focuses on:
 - Which columns/types of objectives were filled most readily? Why?
 - Where do we need to focus more attention?
 - How do these objectives relate to objectives of teaching particular grades of students or school subjects/syllabuses?
 - If time permits, each column/type of objective could be discussed in depth in a three stage process based upon:
 - Hearing reports of group lists of objectives from each column one at a time.
 - Reviewing materials on OHTs 7-13
- OHT 7 Objective 1: Ecological Concepts
 OHT 8 Objective 2: People-Environment Concepts
 OHT 9 Objective 3: Investigation Skills
 OHT 10 Objective 4: Environmental Values
 OHT 11 Objective 5: Issues Analysis Skills

OHT 12 Objective 6: Problem Solving Skills

OHT 13 Objective 7: Taking Environmental Action

- Relating these objectives to the objectives of particular school subjects/syllabuses.
- This may develop into a new activity in which the objectives in a particular syllabus are categorised by the columns on Resource 2.

3. ENVIRONMENTAL EDUCATION IN PRACTICE

This activity requires participants to apply previous learning to the development and evaluation of several examples of environmental education in practice. There are three parts to this activity: Imagining, Evaluating, and Planning.

A. Imagining

- Ask participants to write a 3-5 sentence description of a "good" environmental education lesson ("good" means addressing many of the objectives just outlined). Tell participants to imagine they are looking into a classroom window (or peering from behind a tree if it is an outside activity). Their task is to describe what they can see going on. This may be a lesson they have seen or taught - or a lesson they would like to see or teach.
- Ask participants in groups of three to share their descriptions/stories with each other, explaining the environmental education objectives that are being addressed.
- Ask for a selection of descriptions/stories to be read to the whole class, with comments on the environmental education objectives being addressed.

B. Evaluating

- Distribute copies of Resource 3. It contains descriptions of 7 sample environmental education lessons/activities. These provide extra ideas for participants on the range of activities possible in environmental education.
- After reading the 7 lesson descriptions, participants could be asked to complete the six activities on Resource 3 in small groups and report to the whole group.

C. Planning

- Review the differences between education *about*, *in* and *for* the environment (Reading 2; OHT 5).
- Distribute a copy of Resource 4 to groups of 3-4 participants. It details a wide range of possible themes and activities that participants might experience in learning about four topics. Ask participants to check whether they agree that all the activities have been classified correctly as examples of education *about*, *in* and *for* the environment. Each group could be given one topic to save time on this exercise. Hear group answers focusing on the different objectives served by the three approaches.
- Ask each group to select a new topic (i.e. not on Resource 4) relevant to their grade or area of teaching, and to brainstorm 7-10 themes and activities for each of education *about*, *in* and *for* the environment on their chosen topic.
- The completed lists of topics/activities should be displayed and checked by members of other groups.

- It may be possible to arrange to have the group reports typed and copied for distribution to all members of the class so that everyone ends up with a list of suggested topics/activities for teaching a number of themes in environmental education.
- A possible follow-up activity could be to require participants to prepare lesson plan(s) for teaching one or more of the topics/activities they have suggested.

4. CONCLUSION

- Review the three activities in the workshop, focusing upon the definition, 3 aims, and 7 objectives of environmental education.
- Emphasise the differences between:
 - Education *about* the environment: Chiefly knowledge and some investigation skills.
 - Education *in* or *through* the environment: Chiefly attitudes and investigation skills.
 - Education *for* the environment: Involves using the knowledge, skills and attitudes of education *about* and *in* the environment as a means to the end goal of fostering an environmental ethic, appropriate lifestyle decisions, and possible action for environmental protection and improvement.
- Show OHT 14. This re-inforces the importance of education *for* the environment.

OHT 1

OVERVIEW OF WORKSHOP

1. The need for environmental education
2. What is environmental education?
3. Environmental education in practice
4. Review



OHT 2

THE STATE OF THE PLANET

- The Amazon rainforest which took 60 million years to evolve could all be gone within our lifetime.
- Increases in carbon dioxide and other "greenhouse gases" and the destruction of the ozone layer are causing climatic changes on a global scale.
- Leakage of PCBs from industrial waste could cause the extinction of marine mammals inside 40 years.
- Acid rain is destroying forests, lakes and major historic landmarks in Europe and North America.
- Whole nations have had their economies damaged so badly that their health and education infrastructure may never recover. Current estimates are that 14 million children die every year from diseases which are unknown or do not cause child death in First World countries.
- The devastating economies of many countries are causing intense pressure on natural ecosystems as resources of soil and forests are exploited in order to provide daily necessities as well as export income to pay off foreign debt.

"Our list could continue but enough has already been described to point to the immediate need for emergency technological change as soon as industry can respond. Beyond this there is the need for substantial social and economic change as we absorb the effects of damage already done and develop new directions for economic and social development."

(Lacey 1990, p.13)

OHT 3

THE 3 A'S OF ENVIRONMENTAL EDUCATION

AIMS

1. **AWARENESS**, knowledge and understanding
2. **ATTITUDES** and personal lifestyle decisions
3. **ACTION** for a better environment



OHT 4

DEFINITIONS OF ENVIRONMENTAL EDUCATION

Definition 1

Environmental education is an across-the-curriculum approach to learning which helps individuals and groups to understand the environment with the ultimate aim of developing caring and committed attitudes that will foster the desire and ability to act responsibly in the environment. Environment education is concerned not only with knowledge, but also with feelings, attitudes, skills and social action.

Australian Association for Environmental Education

Definition 2

Environmental education is the preparation of people for their lives as members of the biosphere. It is learning to understand, appreciate, work with, and sustain environmental systems in their totality... Environmental education is fundamentally education in problem-solving - but problem-solving from a philosophical basis of holism, sustainability, enhancement, and stewardship... The goal is not just to solve a problem with a narrow focus that makes another problem worse,... (n)ot just to make a correction and restore the status quo, but to make things better.

Meadows (1990, p.5)

OHT 5

APPROACHES TO ENVIRONMENTAL EDUCATION

Education *About* the Environment

- Provides understanding of how natural systems work
- Provides understanding of the impact of human activities upon them
- Develops environmental investigation and thinking skills

Education *in* the environment

- Gives reality, relevance and practical experience to learning through direct contact with the environment
- Develop important skills for data gathering and field investigations
- Develop aesthetic appreciation
- Fosters environmental awareness and concern

Education *for* the environment

- Builds on education *in* and *about* the environment
- Develops an informed concern and sense of responsibility for the environment
- Develops an environmental ethic
- Develops the motivation and skills to participate in environmental improvement
- Promotes a willingness and ability to adopt lifestyles compatible with the wise use of environmental resources



OHT 6

7 OBJECTIVES OF ENVIRONMENTAL EDUCATION

1. Information about the environment
2. Studies of humans and the environment
3. Skills to investigate the environment
4. Positive attitudes to the environment
5. Investigating and clarifying environmental viewpoints and values
6. Environmental problem-solving
7. Taking environmental action

Education about and in
the environment

Education for the environment

OHT 7

OBJECTIVE 1: ECOLOGICAL CONCEPTS

Energy

Cycles

Diversity

Community

Interrelationships

Change

Adaptation

Source: Van Matre, S. (1979)

OHT 8**OBJECTIVE 2: PEOPLE - ENVIRONMENT CONCEPTS**

Resources and Production	What resources are being obtained, used, produced, argued about or mobilised? For what purposes are they being used, by whom and why?
Distribution and Redistribution	How are resources currently distributed and redistributed, and according to what principles and methods?
Power and Decision	Making How are decisions taken about such matters, by whom and according to what procedures and rules? That is, what is the structure of power, how is it distributed and why?
Social Organisation	What is the social organisation associated with this? For instance, is it composed of sharply defined and unequal groups, hierarchically arranged in relation to both the distribution of resources and power?
Culture and Ideology	In what ways do culture and ideology both reflect and influence all this?

OHT 9

OBJECTIVE 3: INVESTIGATION AND THINKING SKILLS

1. Gathering information
 - Library
 - In the field
2. Organising information
3. Analysing information
4. Evaluating alternatives
5. Communicating conclusions



OHT 10

OBJECTIVE 4: ENVIRONMENTAL VALUES

People and Nature: Ecological Sustainability

Interdependence

Biodiversity

Living lightly on the earth

Interspecies equity

People and People: Social Justice

Basic human needs

Inter-generational equity

Human rights

Participation

OHT 11

OBJECTIVE 5: ISSUE ANALYSIS SKILLS

1. What controversy does this issue represent?
2. Why has this issue arisen?
3. Who stands to lose and who stands to gain from this issue?
4. Who has the power to make official decisions on this issue? Why?
5. How may they be influenced?
6. Who is trying to influence them at the moment? Why? How?
7. How can ordinary people be encouraged to become active on the issues?
8. What social interests do the decision-makers represent?
9. How may they be influenced to make a decision on the issue that best serves the needs of the less powerful people in the community and/or the long term sustainability of ecosystems?



OHT 12

OBJECTIVE 6: PROBLEM SOLVING SKILLS

1. State the problem
2. Identify possible causes
3. Identifying further problems if these causes are not dealt with
4. Describing the underlying problem. State what you wish to achieve, your reasons for this, and identify who will benefit and who might lose
5. Suggest solutions to the underlying problem
6. Describe the best solution/combination of solutions
7. Outline stages in implementing the solution and consider any consequences of this implementation - positive and negative

OHT 13

OBJECTIVE 7: TAKING ENVIRONMENTAL ACTION

1. Sharing information and persuasion
2. Ethical or green consumerism
3. Political lobbying
4. Legal action
5. Environmental improvement projects

Only education *for* the environment offers teachers the theory and practice with which to make a genuine contribution to environmental well-being, and this requires an acknowledgement of the links between environmental, moral and political education.

Huckle (1983, p.100)

RESOURCE 1

THE 'EC' GAME

Find someone who:

- A. has visited a National Park in the last month. Which one?
- B. knows the name of their national Minister for the Environment. Who?
- C. is a member of an active environmental group. Which one?
- D. works as a volunteer for an environmental group. Which one?
- E. knows the title of the 1987 UN report on environment and development. Title?
- F. has participated in a pro-environment rally or march. When?
- G. travels to work/school in a car pool or by public transport. Since when?
- H. has a garden of mainly native species. What plants?
- I. does not allow chemical poisons to be used on his/her property. Since when?
- J. recycles two of the following: paper, cans and bottles. Which two?
- K. has written a Letter to the Editor on an environmental issue that affects him/her directly. Which one?
- L. has written to a politician about a local environmental issue. Which one?
- M. can name a local environmental issue that affects him/her directly. Which one?
- N. practises energy conservation in their home. How?
- O. has a favourite to go to when he/she needs 'regenerating'. Where?
- P. can name a global environmental problem that affects him/her directly. Which one?

A. Name: Which one?	B. Name: Who?	C. Name: Which one?	D. Name: Which one?
E. Name: Title?	F. Name: When?	G. Name: Since when?	H. Name: What plants?
I. Name: Since when?	J. Name: Which two?	K. Name: Which one?	L. Name: Which one?
M. Name: Which one?	N. Name: How?	O. Name: Where?	P. Name: Which one?



RESOURCE 2

OBJECTIVES OF ENVIRONMENTAL EDUCATION

1. Information about the environment	2. Studies of humans and the environment	3. Skills to investigate the environment	4. Positive attitudes to the environment	5. Investigating and clarifying environmental viewpoints and values	6. Environmental problem solving	7. Taking environmental action

RESOURCE 3

WINDOWS ON SEVEN LESSONS

Instructions:

1. Read the descriptions of the 7 environmental education lessons that follow.
2. How do the lessons you have imagined and discussed relate to these lessons?
3. Which of the 7 lessons would you most like to teach? Why?
4. Are any of the 7 lessons not really "good" environmental education? Why?
5. Classify the 7 lessons according to the objectives of environmental education they address.
6. Classify the 7 lessons according to how they fit into the categories of education *about*, *in* and *for* the environment.

WINDOWS ON SEVEN CLASSES

- 1 This classroom is in Hobart. The participants have just finished watching a video on the archaeological and biological heritage of the forests adjoining the World Heritage listed South-West Tasmania National Park. The participants have already analysed a selection of newspaper cuttings on the State government's position, the desire of woodchip companies to log the areas, The Wilderness Society's proposals to preserve the forest, and the State government's opposition to this. The participants are preparing for a visit in their next double lesson by a member of State Parliament and a speaker from The Wilderness Society to debate the question: If governments do not act to protect heritage environments, what action should interested groups and individuals take?
- 2 This classroom is empty because the class is away on a camp. It is now night and we find the participants in a long line walking along a bush trail with torches on an animal spotting expedition. That afternoon their teacher led them through a discussion of whether it was right or wrong to spotlight small animals in the interest of "science". Never having been in the forest at night and expecting adventure, most of the class decided to go on the expedition despite some reservations. However three participants have decided to stay back at the camp with one of the parent-helpers to make cocoa for the class on its return.
- 3 This classroom is very noisy. Participants are at the end of a four week study of sandmining and are presenting their findings in the form of a simulated mining warden's court hearing. The teacher has just announced the "news" that the commonwealth government has decided not to grant an export licence for the rutile irrespective of the warden's decision. The noise is from a group of "concerned local residents" who are in uproar about the lost job opportunities for their economically depressed area.
- 4 In this classroom, participants are reading a Department of Primary Industries booklet on soil conservation. Their teacher has asked them to make a list of five methods farmers can use to reduce soil losses, but in one back corner of the room, a small group of participants has become diverted from the main task. They are fascinated by a diagram on page three of the booklet which shows that every 680 gram loaf of bread they buy costs 7 kilograms of soil lost through soil erosion. One of them has decided to find out if any other food items she eats are so environmentally costly, but does not know where to start.

- 5 This classroom is empty. Having learnt something of the historical growth of their town, participants are turning their attention to the future planning of their area. They have gone in groups to the public library, the town hall, and the offices of Acme Pty Ltd. Another group is surveying community attitudes at a shopping centre. The class is divided in opinion about Acme's plans to redevelop 40 hectares of recently purchased local farmland into an industrial estate. So, the class is researching the issue with the purpose of submitting letters to the planning department and Acme Pty Ltd stating their views supported by the results of their surveys.
- 6 This classroom is a science laboratory. The class has "harvested a metre square quadrat of grass cover from a special study plot by the river near the school and are now preparing to dry and weigh the last six month's growth. This is the summer growth and they will be comparing their results with the data they obtained when they harvested the spring growth. The aim of their research is to evaluate the success or otherwise of the riverbank restoration and revegetation project that the school has been working on for the last three years with the support of the local council.
- 7 There is mess everywhere in the last classroom with leaves, grass clippings, stones, a few drink cans, scraps of plastic, chart paper and glue pots on every desk - and all over the floor. It is an art room and the participants know that they have to clean up before they go to lunch. Their task today is to create a collage from materials available in the school grounds to express their views about the way people treat the environment.

RESOURCE 4

IDEAS FOR LEARNING ABOUT, IN AND FOR THE ENVIRONMENT

Note to facilitators: Resource 4 should be photocopy enlarged to A3 size for presentation to students. Resource 4 is on the next page

Source: Fien, J. (1988) *Australian Environment*, Bicentennial Australian Studies Schools Project, Bulletin 6, Curriculum Development Centre, Canberra, pp. 14-15.

SAMPLE TOPICS	EDUCATION ... ABOUT THE ENVIRONMENT	... IN THE ENVIRONMENT	... FOR THE ENVIRONMENT
Australian ecosystems	- Australian geological history and landforms - Australian weather and climatic types, causes and patterns - Australian vegetation types and patterns - Australian fauna and their adaptation to various ecosystems - Aboriginal relationships with the land and use of ecosystems - The history of land settlement and resource development in Australia - The impact of introduced species on Australian ecosystems - The changing perception of native fauna from "economic resources" to "endangered species" - The role of National Parks as part of the National Estate - Wildlife management practices - The quality of water in Australian rivers and along the coast - The causes and impacts of natural hazards in Australia and ways of minimizing their effects	- Data gathering through map reading, line sketching, and photography - Bird watching, identification and habitat surveys - Animal counts and skills for handling small animals - Measuring weather, relief and vegetation patterns - and/or water quality using scientific instruments - Monitor the stages in the regrowth of vegetation after a bushfire, logging or urban development project - Visit a National Park to study ecosystem behaviour and the patterns of visits by people from different age, ethnic and socio-economic backgrounds - Analysis of news reports on a current environmental issue and critical thinking about the evidence offered by the participants in the debate	- Participate in the revegetation of a local creek - Debate the use of animals in experiments to find new and safe consumer products - Evaluate the arguments and strategies used by various groups to have an area declared a National Park - Plan a role play simulation to analyse the various viewpoints in the annual kangaroo culling numbers controversy and the political process whereby decisions are made - Consider enrolling the school or class in environmental study/action groups such as The Green League or the Australian Trust for Conservation Volunteers - Research the heritage value of a forest, headland or some other natural feature and enter it on the public data base of the Australian Heritage Commission
Soil resources	- The relationship between geology, climate, vegetation and soil formation - The pattern of soil types found in Australia and the characteristics of the major soil types - The relationship between soil and agricultural patterns - The impact of agriculture on soil erosion and salinity - The causes and extent of soil erosion and salinity in Australia - Soil conservation and restoration methods and projects - Soil research and changing agricultural practices - The short and long term economics of running a farm with and without sound soil conservation practices - The impact of forest clearance on soil fertility, erosion and flooding - The influence of urban development on runoff and soil erosion - The use of fertilizers and other garden chemicals in the suburbs	- Sketching and analysis of soil profiles at road cuttings near the school or field study sites - Classroom and laboratory experiments to analyse the characteristics and properties of soil - Design of triangular graphs to describe soil structure - Use of a stream tank to simulate soil processes - Measure the carbon content of soils to assess its fertility and suitability for agriculture - Monitor and record the amount of fertilizer used to green the school's playing fields - Analyse photographs (and the accounts if possible) of a farm before and after soil conservation was practised - Form visits to observe and evaluate the success of alternative techniques to prevent soil erosion	- If a loaf of bread costs 7 kg in soils lost to erosion, calculate the amount of soil lost in a year to provide bread for a family that consumes one loaf of bread a day - Evaluate the values that underlie the various types of incentives given to farmers for soil conservation - Debate the extent to which various soil conservation practices represent a technological solution to the deeper economic and social problems that force farmers to "mine the soil" - Research possible sources and costs of replacing chemical lawn fertilizers at home or school with organic fertilizers. How could you get people to use them? - Conduct experiments for improving soil fertility - Develop a hydroponics garden in the school or at home to compare costs with other forms of farming
Mineral and energy resources	- The relationship between geology and types of mineral and energy resources found in Australia - The role of technology and social values in defining what counts as a resource and the scale and environmental impact of resource extraction - The contribution of mining to Australia's overseas trade - The ownership and control of the Australian mining industry - Mining and Aboriginal land rights - Life in an Australian mining town - Impact of mining on ecosystems and revegetation schemes - Mining ghost towns of Australia - The pattern and scale of energy use in the home - and in Australia - The uses of mineral resources in everyday life - The scale of recycling of glass, aluminium, and steel in Australia - Government and industry attempts to increase recycling	- Mapwork ranging from simple geology and trade maps to more complex geological mapping and interpretation - Study of historical mining records such as claim maps, photographs and diaries - Compare vegetation maps of an area today and before mining commenced to calculate the amount of timber that may have been used in mine shafts and local housing - Visit an historical mine site to try panning for gold - Visit a working mine to interview workers and their families on working and living conditions in the town - Monitor air pollution levels around a power station, mine or factory - Design a cartoon character, poster, badge or T-shirt to foster energy conservation	- Make a list of twenty metal or electrical items in your home or that you use and classify them as necessities or luxuries. Try living for a week not using 3 of them - Use scrap metal and plastic (a by-product of the petroleum industry) to create a collage or sculpture to represent your views on mining, its social uses and its environmental impact - Debate whether Australia should be a "quarry" for the industrial countries of the world - Evaluate the success of a mining revegetation project by comparing species complexity in the revegetated area with neighbouring areas - Monitor energy use at home or at school to develop an energy conservation plan to reduce consumption by 10%
The built environment	- Population distribution and density patterns in Australia - The characteristics of Australian country towns, especially their social composition, architectural values and future prospects - The characteristics of Australian cities and the pattern of landuse types commonly found in them - The quality of life and environment for people of different socio-economic and ethnic backgrounds in a city - The relationships between house design and micro-climate - The heritage value of buildings and products in cities - The causes and extent of urban problems such as traffic congestion, suburban sprawl, and air and water pollution - The role of low-density planning in overcoming urban problems - The political and legal processes involved in changing land zonings - The opportunities for individuals to participate in the planning process	- Map landuse patterns, recreation sites or housing styles in the area near the school - Urban wildlife surveys and monitoring - Use census data, historical records, photographs and maps to trace changes in the landuse, social composition and natural systems in a town or city - Visit a water or sewerage treatment plant to investigate the procedures involved in ensuring high standards of environmental health - Use scientific instruments to measure air and water quality or micro-climatic changes such the "heat island" effect or "wind canyons" in a city - Analyse newsclippings on a development proposal for a new bridge, high rise office block or mall	- Visit the management of an industrial plant and present a report you have prepared on its aesthetic, traffic and pollution impact on the local area as well as your ideas for improvement - Plan and participate in an urban tree planting project - Prepare an audio-visual presentation on the causes, effects and possible solutions to a local traffic or zoning problem to play to community groups and politicians - Prepare a collage/display on the scale and costs of over-packaging of goods at a local shopping centre - Plan an anti-litter campaign that will involve all students in your school (and maybe neighbourhood) in a massive clean-up operation with local media coverage - Research the need for a bike-way or skate-board pit in the area. Plan and implement a scheme to have it built

READING 1

Source: Worldwide concern about the environment, *Our Planet*, 1 (2/3), 1990, pp. 14-15.

The first worldwide survey on the environment shows that developed and developing countries alike have high levels of concern about the quality of their environment and skepticism of their leaders' ability to improve or control it.

The survey, conducted for the United Nations Environment Programme (UNEP), by Louis Harris and Associates, measures public opinion and leadership attitudes in 14 nations on four continents and is by far the most comprehensive study ever of environmental attitudes.

The poll found that most people and most leaders in the 14 nations surveyed

are pessimistic about both the five-year and 50-year outlook for the environment. But, they believe the trend could be reversed if protecting the environment became a major national and international priority.

Very large majorities — between 75 and 100 percent of both the public and the leaders in all 14 countries — agreed on the need for stronger action by their governments, stronger action by international organizations such as the United Nations, and stronger laws to contain industrial pollution.

The countries included in the survey were Argentina, China, Hungary, India, Jamaica, Japan, Kenya, Mexico,

Nigeria, Norway, Saudi Arabia, Senegal, West Germany and Zimbabwe. Interviews for the survey were conducted between February and June 1988.

"At the United Nations Environment Programme we are very encouraged to see the strength and the depth of support for both national and multinational environment programmes," said Dr. Mostafa Tolba, UNEP's Executive Director. "We have a clear mandate for our work. I hope the survey will be seen as a call to action."

Rich and poor alike

"What is remarkable about the survey," said Louis Harris, Chairman of Louis Harris and Associates, "is that the alarm about deterioration of the environment and support for much tougher environmental programmes are not confined to the western countries, but they are found in the East and West, in the South and the North, and in the rich and the poor countries of the world."

The survey found that most people in 13 of the 14 nations surveyed rated their environment as only "fair" or "poor". Only in Saudi Arabia did a majority of the public describe their environment as "excellent" or "pretty good". Leaders in 11 of the 14 countries rated their environment as fair or poor. Those in Zimbabwe, Saudi Arabia, and Norway rated their environments as excellent or pretty good.

"Leaders", for the purposes of the survey, comprised elected and appointed government officials, civil servants, news media, religious, trade union, and professional medical individuals.

In each nation, surveys were conducted with a cross-section of between 300 to 1,000 persons aged 16 and above and a separate sample of 50 "leaders". The same questionnaire, translated into local languages, was used for each nation and for both the public and leader samples.

In most developing countries the sample of the public was limited to



Jean Mérie

major metropolitan areas and urban centres because of the impracticality of surveying rural populations there. In Saudi Arabia the sample was limited to men, reflecting the different status of women in that nation and their inability to vote.

Other findings

Among the survey's other findings:

- Majorities or pluralities of the public and leaders in all of the countries surveyed except Saudi Arabia, believed their environments had become worse in the past ten years.

- Large majorities of both the public and leaders in all nations believed there was a direct link between the quality of the environment and public health.

- Younger people showed more concern for the environment – and the link with public health – than older people, and younger people and women expressed more concern about the future than older people or men.

- Very high levels of anxiety and concern were expressed almost everywhere about the pollution of drinking water, of rivers and lakes, of the air and of the land.

- Sizeable majorities in almost all countries also expressed grave concern about the loss of agricultural land, the cutting down of trees and forests, radioactivity, desertification, toxic wastes, and acid rain.

- But, there was less awareness of – and less concern about – climatic change such as that attributable to the greenhouse effect, or the shrinking ozone layer.

Only tiny minorities in any nation surveyed believed their environmental laws were too strict. And majorities of the public in all the countries surveyed, except Nigeria – and of leaders everywhere, except in Nigeria and Zimbabwe – said they would choose a situation with a lower standard of living and less risks to health over one with a higher standard of living with more health risks.

"Somewhat higher taxes"

Majorities of both the public and leaders in all countries said they would be willing to pay somewhat higher taxes to the government if they knew the money would be spent to protect the environment. In most countries these majorities were two-to-one or three-to-one.

Japan was the only nation where less than a majority of the public said they would be willing to spend two hours a week working on environmental projects or help by contributing money. But 77 per cent of that nation's leaders said they would be willing to do that.

The urgency of the overall global environmental problem was perhaps best shown by the majorities of the public in 13 of the 14 nations agreeing with the statement that: "Unless something urgent is done about controlling the environment in the world, the land will become desert, the oceans will flood over on to the land, and the earth will hardly be fit for human life."

Only in Saudi Arabia did a majority disagree with that statement.

The Harris organization intends to conduct similar surveys in 1989 in several other nations, including the United States, Brazil, the Soviet Union, the United Kingdom, France and Egypt.

Similar findings in the U.S.

A shorter version of the Harris poll conducted for UNEP earlier this year in the U.S. showed the American public not only believes its environment is in bad shape, but that it is also getting worse. Almost 97 per cent of Americans surveyed think their country should be doing more "to protect the environment and curb pollution." A majority are also willing to pay more for a cleaner environment.

Those most exposed to industrial pollution, particularly East and West coast residents, are most pessimistic about the state of the environment. Older Americans, who can remember the nation before the onslaught of superhighways, acid rain and contaminated water, take a much dimmer view than the younger generation which has never known such times.

The level of concern about safe drinking water among the American public is higher than the concern



expressed by others in industrial nations. Despite all the recent media coverage of the "greenhouse effect", global climate change placed last on the list, suggesting how relatively remote the danger from this less tangible problem seems to the public.

Other surveys

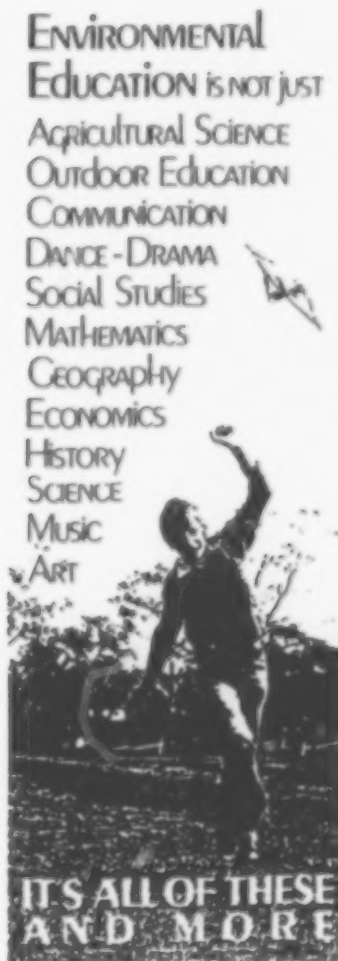
High levels of public concern about environmental protection have been reported by other surveys in North America and the European Community.

These include the 1986 European Omnibus Survey published by the Commission of the European Communities; the October 1988 Gallup poll in the UK for *The Daily Telegraph*; surveys in the U.S. by Louis Harris in April 1986 and February 1989, and by Cambridge Reports in 1989; and polls conducted in Canada last year by Environics Research Group and Angus Reid Associates.

The major concerns of the public both in Europe and North America were air and water pollution and waste disposal, followed by extinction of species and depletion of natural resources. Majorities did not believe that the authorities were doing enough to protect the environment, and most of those polled would favour increased government regulation and spending, even if it meant higher taxes or prices, to control environmental degradation. In the U.K. and Canada, a majority said preservation of the environment should take precedence over economic growth, and sizeable proportions of the public in the European Community, and the U.S. were already engaged in various actions to protect the environment. ■

READING 2

Source: Fien, J. (1988) *Australian Environment*, Bicentennial Australian Studies Schools Project Bulletin No. 6, Curriculum Development Centre, Canberra, pp. 6-15.



What is environmental education? Environmental education is what geography teachers do, and English teachers, and music teachers, and social studies teachers, and art teachers, and science teachers, and...! As the poster says, environmental education is all of these and more.

Just as the study of the Australian environment is not the preserve of any one academic discipline, environmental education is not the preserve of any one subject area in a school. Environmental education might be best described as an across the curriculum approach to learning that is useful to individuals and groups in coming to understand the environment with the ultimate objective of developing caring and committed attitudes that will foster the desire and ability to act responsibly in the environment. Thus, environmental education is concerned about knowledge, and also feelings, attitudes, skills and social action. As the Curriculum Development Centre journals for environmental education in primary and secondary schools in Australia claim, the goal of environmental education is to produce an environmentally literate citizen who will have the basic knowledge of and concern for the environment, awareness of issues, basic skills to cope with issues and initiate solutions, as well as motivation and commitment to the measures of environmental management (Curriculum Development Centre 1981a, 1981b).

Achieving this goal involves the integration of three approaches to environmental education: education in the environment, education about the environment and education for the environment.

Education in the environment

The Australian environment, be it a city street, a beach, a farm or a forest, can be used to give reality, relevance and practical experience to learning. Increased awareness of aspects of the environment can be expected from any opportunities for direct contact with the environment given to students. As well, opportunities to move outside the walls of the classroom into the environment can be used to develop important skills for data gathering, such as observation, sketching, photography, interviewing, and using scientific instruments, and social skills such as group work, co-operation and aesthetic appreciation. Environmental awareness and concern can also be fostered by linking learning to direct experiences in the environment and allowing students to become captivated by the complexity and wonder of natural systems or immersed in the values conflict over particular environmental issues.

Education about the environment

If we are to develop the habit of using the environment wisely, such feelings of concern are not enough. Concern needs to be translated into appropriate behaviour

patterns and action but, for this to happen, it is essential to begin to understand how natural systems work and the impact of human activity on them. This will include learning about political, economic and socio-cultural factors as well as about the ecological ones that influence decisions about how we use the environment. Knowledge about the Australian environment is essential if our students are to participate in any informed debate aimed at resolving local and national environmental issues. There is much that all curriculum areas, including the arts as well as the natural and social sciences, can contribute to providing such knowledge and it is important that school-level program planning considers the development of an agreed conceptual structure and integration of efforts for presenting knowledge about the Australian environment to students.

Education for the environment

Education for the environment aims to promote a willingness and ability to adopt lifestyles that are compatible with the wise use of environmental resources. In so doing, it builds on education in and about the environment to help students develop an informed concern and sense of responsibility for the environment through the development of an environmental ethic and the motivation and skills necessary to participate in environmental improvement.

Education in, about and for the Australian environment

Reflecting on the relative strengths and weaknesses of these three approaches to environmental education has led several prominent Australian environmental educators to argue that it is only when the real intention is education for the environment that real environmental education is actually happening. They argue that education in and about the environment are valuable only in so far as they are being used to provide skills and knowledge to support education for the environment. However, when seen as complementary like this, all three approaches to environmental education are necessary if the goals of environmental education are to be achieved in relation to the Australian environment.

What should young Australians therefore be learning in, about, and for the environment? Let's look inside some classrooms and see. These exemplars might help answer the question.

WINDOWS ON SEVEN CLASSES

The first classroom is in Hobart and the students have just finished watching an audio-visual presentation on the archaeological and biological heritage of the Lemonthyme forest adjoining the World Heritage listed South-West Tasmania National Park. The students have already analysed a selection of newspaper cuttings on the State government's position, the desire of woodchip companies to log the

area, the Wilderness Society's proposals to preserve the forest and the State government's opposition to this. The students are preparing for a visit in their next double lesson by a member of State parliament and a speaker from the Wilderness Society to debate the question: If governments do not act to protect heritage environments, what actions should interested groups and individuals take?

The second classroom is empty because the class is away on a camp. It is now night and we find the students in a long line walking along a bush trail with torches on an animal spotting expedition. That afternoon, their teacher led them through a discussion of whether it was right or wrong to spotlight small animals in the interests of "science". Never having been in the forest at night and expecting adventure, most of the class decided to go on the expedition despite some reservations. However, three students have decided to stay back at the camp with one of the parent helpers to make cocoa for the class on its return.

The third classroom is very noisy. Students are at the end of a four week study of sandmining and are presenting their findings in the form of a simulated mining warden's court hearing. The teacher has just announced "the news" that the Commonwealth government has decided not to grant an export licence for the rutile irrespective of the warden's decision. The noise is from a group of "concerned local residents" who are in uproar about the lost job opportunities for their economically depressed area.

In the fourth classroom, students are reading a Department of Primary Industries booklet on soil conservation. Their teacher has asked them to make a list of five methods farmers can use to reduce soil losses, but in one back corner of the room, a small group of students has become diverted from the main task. They are fascinated by a diagram on page three of the booklet which shows that every 680 gram loaf of bread they buy costs 7 kilograms of soil lost through soil erosion. One of them has decided to find out if any other food items she eats are so environmentally costly, but does not know where to start.

The fifth classroom is empty. Having learnt something of the historical growth of their town, students are turning their attention to the future planning of their area. They have gone in groups to the public library, the town hall, and the offices of Acme Pty Ltd. Another group is surveying community attitudes at a shopping centre. The class is divided in opinion about Acme's plans to redevelop 40 hectares of recently purchased local farmland into an industrial estate. So, the class is researching the issue with the purpose of submitting letters to the planning department and Acme Pty Ltd stating their views supported by the results of their surveys.

The sixth classroom is a science laboratory. The class has "harvested" a metre square quadrat of grass cover from a special study plot by the creek at the back of the school and are now preparing to dry and weigh the last six months' growth. This is the winter regrowth and they will be comparing their results with the data they obtained when they harvested the summer growth last March. The aim of their research is to evaluate the success or otherwise of the creek bank restoration and

vegetation project that the school has been working on for the last three years with the support of the local council.

There is mess everywhere in the last classroom with leaves, grass clippings, stones, a few drink cans, scraps of Gladwrap, chart paper and glue pots on every desk - and all over the floor. It is an art room and the students know that they have to clean up before they go to lunch. Their task today has been to create a collage from materials available in the school grounds to express their views about the way Australians treat the environment.

Characteristics of environmental education While our classroom glimpses have only been of small parts of seven longer curriculum units in different parts of Australia, these seven classes have much in common. As well as telling us much about the variety of national and local environmental questions and issues that students can explore, they tell us about some of the indoor and outdoor settings in which environmental education may take place and some of the wider educational goals that it may serve. In each case, the lesson aims and content reveal a concern for the promotion of ecological and social understandings, a focus on real issues of interest and importance to students, and the development of practical, social and critical thinking skills. In addition, effective objectives are being fostered by requiring students to analyse alternative viewpoints on issues, clarify environmental values, and develop their decision making and problem solving skills. In terms of teaching style, the various lessons display great variety in a blend of open and more structured enquiries, the incorporation of fieldwork and in-class activities, a balance of emphasis on learning processes and learning outcomes, and a concern for the creative presentation of conclusions. It is lessons and teaching programs such as these that can help students achieve the educational potential available to them in learning in, about, and for the Australian environment.

WHAT DO STUDENTS NEED TO LEARN FOR THE AUSTRALIAN ENVIRONMENT?

Education for the environment is aimed at producing citizens who are knowledgeable about the Australian environment and its associated problems, skilled in researching the resultant issues, aware of how to help resolve them and motivated to work towards a better environment for all.

Such statements of intentions are all well and good, but what should young Australians actually be learning in order to become such informed, skilled, caring and involved "environmental citizens"? A paper such as this with a full K-12 brief, and for schools in all parts of Australia, cannot do justice to the task of answering such a question in detail. That is more the role of education systems and syllabus writers. However, it is possible to present an overview of the sort of learning that such syllabuses should promote and provide some exemplars or ideas for classroom work.

At all levels of schooling, programs of education for the Australian environment should contribute to learnings in at least the following four areas:

1. People are an inseparable part of the environment. We are part of a system that links us as individuals, our culture and the bio-physical world of nature.

For each one of us, the environment contains three elements: nature, Australian society and the individual. All three are linked as interdependent parts of a system from which the individual cannot be isolated. Each of us is a part of Australian society and our individual perceptions and actions contribute to the overall impact of people on the bio-physical world. We are part of a culture that has developed an economic structure, technological processes and a political system that allows individuals to obtain the goods and services necessary to maintain a particular lifestyle or way of life. The fundamental issue in this interdependent natural and social system is that it is individuals who have the ability to strengthen, weaken or maintain the relationships between the three elements in the system. The ultimate goal of environmental education is the development and maintenance of a high quality system in which individuals know how and are willing to act only in ways that will advance human welfare and maintain ecological sustainability.

2. The bio-physical world contains a range of renewable and finite resources that people can develop to satisfy their needs and wants according to the lifestyle choices they make.

The survival of any society depends on the supply of natural resources to maintain life (air, water etc.), to satisfy basic needs (shelter, food etc.) and to provide a certain degree of comfort and luxury to life (cars, electrical goods, air conditioning etc.). Influenced by the values and expectations of society, individuals make lifestyle choices that depend on consuming resources to a greater or lesser extent. So, it is important that students develop a sound understanding of natural resources, their characteristics, distribution, status, and present and potential uses in order to make informed decisions on which resources to consume for which purposes. This involves learning about the natural world and the functioning of ecosystems as well as about the way different cultures (e.g. Aboriginal compared with non-Aboriginal Australians) have perceived and used resources. In addition, students should come to understand that, as people use natural resources, they alter the bio-physical world and create a variety of human landscapes such as mining landscapes, farming landscapes, small country towns and large cities. Understanding these landscapes and the resultant ways of using resources involves some familiarity with the impact of technology on society and its use of natural resources, various ideas for urban and rural design, the operation of transport systems, and the nature of the political and legal systems that control the use of resources. Fundamental to these understandings from the natural and the social sciences should be a realisation that the development of human environments should aim at a high quality system that improves human welfare in balance with ecological sustainability.

3. The ecological balance of natural ecosystems is always affected by the degree of human impact in the development of resources. Sometimes, the environmental problems that result from the unplanned or unwise use of resources are so severe that changes in management practices and human lifestyles are necessary to allow ecosystems to rebuild their ecological balance.

Aborigines lived in a state of relative balance and harmony with the Australian environment, using it to provide for their immediate needs and developing a culture that saw people and the natural world as inseparable. However, in the 200 years since 1788, an ecologically sustainable society has been supplanted by one that largely views nature as a "cornucopia" to supply the resources to satisfy every human need and want. Of course, not all Australians think like this, but the results of 200 years of non-Aboriginal settlement of Australia are evident in the range of environmental problems facing us as a nation: soil erosion and salinity on a large scale, disappearing forests, many lost or endangered species of animals and birds, pesticide residues in our pastures, the loss of important features from our natural and cultural heritage, the seemingly endless sprawl of suburbia, and congested, polluted city centres. These problems are caused by a complex set of social values and human expectations about "the good life" and their resultant impacts on the limits of natural systems.

Environmental citizens need to understand how to work towards the solutions of these problems through proper planning, using the legal system, new laws, political participation, improved resource management practices, research and technological developments. They also need to understand that the resolution of some of these problems will be impossible if society does not act as a whole to alter particular perceptions of the environment and even adopt new, more responsible lifestyle practices that do not impact so greatly on the natural world.

4. Attitudes of concern for the quality of the environment are important to motivate people to develop the skills necessary to find out about the environment and to be willing to take the necessary decisions for environmental problem-solving.

The words "attitude" and "decisions" in this context involve more than a knowledge of factual information. They imply a combination of informed concern and a willingness to act. Learning about the Australian environment will be little more than education for its own sake unless it provides opportunities for students to explore alternative environmental values and to develop an appreciation and concern for ecological sustainability and human welfare. Such attitudes are necessary to motivate our young people both now, as students, and later, as adults, to seek solutions to environmental problems. While knowledge and skills provide an important foundation for responsible environmental behaviour, especially knowledge of how to work effectively with others to solve environmental problems, they count for nought unless the important affective domain is activated.

IDEAS FOR LEARNING ABOUT, IN AND FOR THE AUSTRALIAN ENVIRONMENT

These four areas of learning constitute a core of understandings, skills and attitudes that can be translated into programs of learning for particular students in particular schools. As such these four areas might be seen as providing the key ideas and concepts about the Australian environment that need to be "fleshed out" by individual teachers and schools. The table on pages 14 and 15 provides some ideas for study topics and learning experiences that might serve as exemplars

for school-based program planning. Ideas for only four topics (Australian ecosystems, soil resources, mineral and energy resources and the built environment) have been included in the table. Certainly, other topics and other classifications of topics are possible. However, the table is not intended to be seen as definitive. Rather, its purpose is to illustrate possibilities rather than provide any comprehensive coverage of topics.

In using the table, it is also important to note some points about each of the three columns of education about, in, and for the environment.

1. Education about the environment generally involves the learning of content to illustrate particular concepts concerning the patterns, problems and issues in the Australian environment. All programs about the Australian environment should be organized around such concepts in order to give meaning, structure and transferability to learning. Such concepts include:

- ecosystem
- energy flow
- environmental change
- consumerism
- aesthetics
- environmental ethics
- interdependence
- population
- economics and technology
- lifestyle
- heritage
- decision-making

While these concepts range from being predominantly physical through to predominantly human, this is a false dichotomy. In all teaching about the Australian environment there is a need to be mindful of the interrelationship between natural and social systems and the decisions that we can make that impact on both of these.

The content selected to help students understand these concepts in relationship to the Australian environment needs to be grounded in concrete and realistic case studies. In selecting appropriate case studies, it is desirable to seek a balance between studies that illustrate broad national patterns that can provide an information data base for effective participation in Australian society and studies at the State and local level that have immediate appeal and relevance and that can facilitate concrete learning through fieldwork. Fieldwork is important in environmental education because it can provide a link between education about the environment and education in the environment. In addition, as teachers and students feel more comfortable with the controversial nature of all environmental matters, the content and case studies may be increasingly organised around environmental questions, issues and problems over which the Australian

community is divided, thus providing a link between the predominantly content orientation of education about the environment and the values-oriented education for the environment.

2. Education in the environment generally involves the development of skills for investigating environmental issues. These skills are of many types. Some may involve new ways of observing and experiencing the environment and the development of heightened perceptions of environmental patterns. There is a close link here between the area of skills and the affective areas of environmental awareness, perception and appreciation. As well, learning in the environment can provide for the development of data gathering skills through observation, mapwork, sketching, interviewing, photography and the use of scientific instruments, and critical thinking skills to analyse and evaluate this and other information back in the classroom. It is advisable that the development of these skills for environmental perception, research and interpretation be integrated into a co-ordinated cross-the-curriculum program for skills development and not seen in isolation from normal class work.

3. Education for the environment involves the use of environmental concepts and skills to explore the value-laden nature of environmental issues and problems with a view to students evaluating contrasting values positions, clarifying their own views, and developing appropriate attitudes of environmental concern along with a willingness to act in accordance with them. Many teachers in the past have been reluctant to involve their students in complex and controversial matters such as these. But, environmental education is concerned with assisting students to make informed decisions and is not about indoctrination. Unless these issues are explored through full and open debate, both in the educational system and the community, there will be a tendency to base decisions on ignorance rather than a proper understanding of all the issues involved - and, of course, the list of environmental problems detailed in the previous section is the legacy of too much of this sort of decision-making in the past.

SAMPLE TOPICS	EDUCATION ... ABOUT THE ENVIRONMENT
Australian ecosystems	• Australian geological history and landforms • Australian weather and climatic types, causes and patterns • Australian vegetation types and patterns • Australian fauna and their adaptation to various ecosystems • Aboriginal relationships with the land and use of ecosystems • The history of land settlement and resource development in Australia • The impact of introduced species on Australian ecosystems • The changing perception of native fauna from "economic resources" to "endangered species" • The role of National Parks as part of the National Estate • Wildlife management practices • The quality of water in Australian rivers and along the coast • The causes and impacts of natural hazards in Australia and ways of minimizing their effects
Soil resources	• The relationship between geology, climate, vegetation and soil formation • The pattern of soil types found in Australia and the characteristics of the major soil types • The relationship between soil and agricultural patterns • The impact of agriculture on soil erosion and salinity • The causes and extent of soil erosion and salinity in Australia • Soil conservation and restoration methods and projects • Soil research and changing agricultural practices • The short and long term economics of running a farm with and without sound soil conservation practices • The impact of forest clearance on soil fertility, erosion and flooding • The influence of urban development on runoff and soil erosion • The use of fertilizers and other garden chemicals in the suburbs
Mineral and energy resources	• The relationship between geology and types of mineral and energy resources found in Australia • The role of technology and social values in defining what counts as a resource and the scale and environmental impact of resource extraction • The contribution of mining to Australia's overseas trade • The ownership and control of the Australian mining industry • Mining and Aboriginal land rights • Life in an Australian mining town • Impact of mining on ecosystems and revegetation schemes • Mining ghost towns of Australia • The pattern and scale of energy use in the home - and in Australia • The uses of mineral resources in everyday life • The scale of recycling of glass, aluminium, and steel in Australia • Government and industry attempts to increase recycling
The built environment	• Population distribution and density patterns in Australia • The characteristics of Australian country towns, especially their social composition, architectural values and future prospects • The characteristics of Australian cities and the pattern of land-use types commonly found in them • The quality of life and environment for people of different socio-economic and ethnic backgrounds in a city • The relationships between house design and micro climate • The heritage value of buildings and precincts in cities • The causes and extent of urban problems such as traffic congestion, suburban sprawl, and air and water pollution • The role of town planning in overcoming urban problems • The political and legal processes involved in changing land zonings • The opportunities for individuals to participate in the planning process

... IN THE ENVIRONMENT	... FOR THE ENVIRONMENT
• Data gathering through map reading, line sketching, and photography • Bird watching, identification and habitat surveys • Animal counts and skills for handling small animals • Measuring weather, relief and vegetation patterns and air and water quality using scientific instruments • Monitor the stages in the regrowth of vegetation after a bushfire, logging or urban development project • Visit a National Park to study ecosystem behaviour and the patterns of visits by people from different age, ethnic and socio-economic backgrounds • Analyse of news reports on a current environmental issue and critical thinking about the evidence offered by the participants in the debate	• Participate in the revegetation of a local creek • Debate the use of animals in experiments to find new and safe consumer products • Evaluate the arguments and strategies used by various groups to have an area declared a National Park • Plan a role play simulation to analyse the various viewpoints in the annual kangaroo culling numbers controversy and the political process whereby decisions are made • Consider enrolling the school or class in environmental study/action groups such as The Gould League or the Australian Trust for Conservation Volunteers • Research the heritage value of a forest, headland or some other natural feature and enter it on the public data base of the Australian Heritage Commission
• Sketching and analysis of soil profiles at road cuttings near the school or field study sites • Classroom and laboratory experiments to analyse the characteristics and properties of soil • Design of triangular graphs to describe soil structure • Use of a stream tank to simulate soil processes • Measure the carbon content of soils to assess its fertility and suitability for agriculture • Monitor and record the amount of fertilizer used to grow the school's playing fields • Analyse photographs (and the accounts if possible) of a farm before and after soil conservation was practised • Farm visits to observe and evaluate the success of alternative techniques to prevent soil erosion	• If a loaf of bread costs 7 kg in soils lost to erosion, calculate the amount of soil lost in a year to provide bread for a family that consumes one loaf of bread a day • Evaluate the values that underlie the various types of incentives given to farmers for soil conservation • Debate the extent to which various soil conservation practices represent a technological solution to the deeper economic and social problems that force farmers to "mine the soil" • Research possible sources and costs of replacing chemical lawn fertilizers at home or school with organic fertilizers. How could you get people to use them? • Conduct experiments for improving soil fertility • Develop a hydroponics garden in the school or at home to compare costs with other forms of farming
• Mapwork ranging from simple geology and trade maps to more complex geological mapping and interpretation • Study of historical mining records such as claim maps, photographs and diaries • Compare vegetation maps of an area today and before mining commenced to calculate the amount of timber that may have been used in mine shafts and local housing • Visit an historical mine site to try panning for gold • Visit a working mine to interview workers and their families on working and living conditions in the town • Monitor air pollution levels around a power station, mine or factory • Design a cartoon character, poster, badge or T-shirt to foster energy conservation	• Make a list of twenty metal or electrical items in your home or that you use and classify them as non-recyclable or hazardous. Try living for a week not using 3 of them • Use scrap metal and plastic (a by-product of the petroleum industry) to create a collage or sculpture to represent your views on mining, its social uses and its environmental impact • Debate whether Australia should be a "quarry" for the industrial countries of the world • Evaluate the success of a mining revegetation project by comparing species complexity in the revegetated area with neighbouring areas • Monitor energy use at home or at school to develop an energy conservation plan to reduce consumption by 10%
• Map land-use patterns, recreation sites or housing styles in the area near the school • Urban wildlife surveys and monitoring • Use census data, historical records, photographs and maps to trace changes in the land-use, social composition and natural systems in a town or city • Visit a water or sewerage treatment plant to investigate the procedures involved in ensuring high standards of environmental health • Use scientific instruments to measure air and water quality or micro-climatic changes such the "heat island" effect or "wind canyons" in a city • Analyse newscuttings on a development proposal for a new bridge, high rise office block or mall	• Visit the management of an industrial plant and present a report you have prepared on its aesthetic, traffic and pollution impact on the local area as well as your ideas for improvement • Plan and participate in an urban tree planting project • Prepare an audio-visual presentation on the causes, effects and possible solutions to a local traffic or zoning problem to play to community groups and politicians • Prepare a collage/display on the scale and costs of over-packaging of goods of a local shopping centre • Plan an anti-litter campaign that will involve all students in your school (and maybe neighbourhood) in a massive clean-up operation with local media coverage • Research the need for a bike-way or skate-board pit in the area. Plan and implement a scheme to have it built

INTRODUCTION *to* DEVELOPMENT EDUCATION

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INTRODUCTION

This workshop is one of the core modules in this series and provides an introduction to the nature, concerns and objectives of development education.

For the survival of the world and its people teachers must do far more than just teach about global issues. We must find ways to change hearts and minds. This can be a response to reasoned argument and evidence or to experience where empathy will lead to commitment to action. Teachers hold the responsibility for educating their participants to work for future change that will help create a better world for all. Together we must work towards a more ecologically sustainable and social just society locally, nationally and globally.

OUTCOMES

This workshop seeks to enable participants to:

- understand and discuss what is involved in development education, and
- help them realise that the process of learning is as equally important as the content.

The workshop also shows that the content is not just about the third world but is concerned with Australia, Australians, and others and their role in an interdependent world.

WORKSHOP OUTLINE

The workshop has seven components:

1. Icebreaker: Introducing Development

An activity that allows participants to introduce themselves and explore their ideas on the meaning of development.

2. The Meaning of Development Education

This activity involves participants reading stimulus material followed by a group discussion.

3. Mini-lecture

A discussion of the history of the term "Development Education", the present day focus and objectives.

4. Fitting it All Together

This activity involves group development of posters illustrating the links between different approaches to education and their shared global concerns.

5. Looking in a Classroom

An activity to assist participants' ability to incorporate a development education perspective into their classroom teaching.

6. Summing Up

Involves reflection on professional practice.

MATERIALS REQUIRED

A) PROVIDED

RESOURCES

Resource 1: Rich - Poor Gaps

Resource 2: Military Spending

Resource 3: The Literacy Gap

Resource 4: Military / Social Spending Imbalance in the Third World

Resource 5: Soldier / Teacher Spending Imbalance in the Third World

Resource 6: Balance Sheet of Human Development - Developing Countries

Resource 7: Balance Sheet of Human Development - Industrial Countries

Resource 8: Paradise Regained for Islanders

B) TO OBTAIN

Calder, M, and Smith, R. (1991) *A Better World for All. Book 1 Teacher's Notes and Book 2 Student Activities*, AGPS/AIDAB, Canberra.

These two books are central to an understanding of the principles and practice of development education. They are available from the AIDAB Development Education Office or any one of the development education centres listed in the Introduction to this manual.

Overhead transparencies and/or photocopies are to be made of some material from these books for the following activities:

Activity 2: Book 1, pp. 9-11, 74 (OHT or photocopies). Other stimulus material for this activity is suggested also.

Activity 4: Book 1, p. 16 (Photocopies cut up as described in activity, OHT also). A3 coloured paper, felt pens, glue

Activity 5: Book 1, pp. 24-25 (Photocopies cut up as detailed in activity)

Book 1, pp. 19-20 (Photocopies)

Book 2, pp. 2-3 (OHT)

ADDITIONAL READING

Beazley, C., ed. (1992) Development: A Guide to the Ruins, *The New Internationalist*, No 232, June (whole issue).

Calder, M, and Smith, R. (1991) *A Better World For All: Development Education for the Classroom. Book 1 Teacher's Notes and Book 2 Student Activities*, AGPS/AIDAB, Canberra.

Pike, G, and Selby, D. (1988) *Global Teacher Global Learner*, Hodder and Stoughton, London.

United Nations Development Programme (1992), *Putting People at the Centre of Development*, Press Kit for Human Development Report 1992, UNDP, New York.

ACTIVITIES

1. ICEBREAKER: INTRODUCING DEVELOPMENT

This activity provides an opportunity for participants to meet each other and to discuss in groups of 3 their understanding of the term development as it applies to various themes.

- Ask participants to break up into triads (groups of 3) and call themselves A, B or C.
- Ask the triads to introduce themselves by name and to give a synonym, a phrase, or a comment on the term development as it relates to a particular theme chosen by the leader. The groups stay together and discuss the term for 3-4 minutes.
- Ask the groups to reform - B's stay where they are, A's move clockwise and C moves anti-clockwise to make new groups. They continue this pattern until the participants have met and discussed with as many as possible in the time available (say 15 minutes).

The facilitator can suggest themes for discussion of the term 'development', changing this each time the groups reform. Four suggested themes are development as it applies to:

- children
- Australia
- poor countries
- indigenous peoples.

Other themes could be development as it applies to their:

- local area
- rich countries
- elites
- power groups etc.

- For the final triad, the group could discuss the question:
 - What do the people in this group most strongly associate with the term development?

Apart from a chance to introduce themselves, this activity gives participants confidence to speak and explore ideas. It also is a way of brainstorming prior to the mini-lecture which will further develop ideas of "What is development?" The facilitator should move around acting as a listener, tuning in to some of the ideas of the participants so these can be used in the mini-lecture to emphasise the sound educational principal of starting with the knowledge and ideas of the group.

The facilitator can choose themes for discussion relevant to the particular group involved, to the local situation, or to what they wish to discuss later. The first groups "throw-in" many ideas and accept all suggestions.

The change suggested for the last triad is to enable each group to report back to the whole group at the end or during the mini-lecture if needed. The last group needs to discuss and negotiate to see if they can come up with a consensus opinion. There may be groups who cannot reach a consensus about the term development. The opportunity to state this and say why, is an important part of the process as it allows the facilitator to expand on the idea that development means many different things, depending on one's point of view, position in society etc.

One or more of Resources 1-8 could be used here for illustrative purposes. Similar resources can be found in *The New Internationalist*, Development: A Guide to the Ruins, June 1992.

2. THE MEANING OF DEVELOPMENT EDUCATION

This activity is a group discussion following the reading and questioning of stories, or other stimulus material. It provides an opportunity for participants to begin discussing the meaning and value of teaching with a development education perspective.

Handouts of two or more of the stories from *A Better World for All*, Book 1 Teacher's Notes, pp.9-11 or overheads of them. Alternatively any stories, photos, posters or cartoons that would stimulate discussion could be used. Posters on pp.120, 173, 174 of *A Better World for All* Book 2 Student Activities; or the cartoon p.17; poster pp.12, 65, 90, 94; story p.89; diagram p.71; photograph p.74; poem p.7 or p.69 of *A Better World for All*. Book 1 Teacher's Notes could be considered. The workshop facilitator should select ones most suitable for their group. It is useful to have at least one visual stimulus (eg the photograph p 74) as well as a story.

The stimulus material is shown or read out by participants or the facilitators. After hearing a story each participant writes down questions they would like answered. The emphasis here is on quickly writing questions - they may start off with very simple questions, i.e. What is the age of the person writing this? Where does she or he teach? Once questions flow they will find they get deeper. It would be useful for them to jot down two or three questions at the end of each reading, so that not all questions relate to the last story read or last photo seen. After a few minutes individuals prioritize their questions, or mark the three most important.

- Groups of three participants then discuss these chosen questions and finally, through negotiation and sharing of ideas they write out the three most interesting questions from their group.
- Ask groups to "swap" their three questions with another group. Each group is given copies of the stories or stimulus material and they try and come up with answers to the questions asked. Finally the two groups come together and discuss the questions asked and answers suggested.
- Bring the discussion together by getting groups to report back, or share one question they found interesting.

The emphasis in this activity is to get participants to discuss the various backgrounds of each of us, and the participants we teach, what is meaningful to us, what influences us, what we see as the purpose of taking a development education perspective. This is a worthwhile exercise that should prompt discussion. Teachers and students often find it difficult to write questions rather than statements. To write questions rather than try immediately to find answers, stimulates us to think deeply, and in the discussion and questioning, the workshop members should find they discuss their own values in relation to development education and what it means. The final summing up by the facilitators should emphasise the dynamic nature of the term.

3. MINI LECTURE

The mini-lecture should be developed primarily from material from pp.13-20 of *A Better World for All. Book 1 Teacher's Notes*.

Points to be discussed in the lecture are:

- the history of the term, p.13, including different views of the term 'development' from p.21 and from participant's own ideas as given in Activity 1;
- the dynamic and changing nature of the term pp.13-14;
- present day focus, p.15 (but do not use Diagram one p.16 at this stage);
- a definition p.17; and
- objectives for development education pp.19-20 and the fact that it is essentially "Political Education" because it is about power and changing the power structure (see cartoon, p.17).

Further ideas could come from pp.26-27 "When to Start", and "Approaches" pp.28-31.

Pp.67-76 provides useful material, particularly related to the "Hidden Curriculum", which links with attitudes and languages used, as brought out in the introduction suggested.

One possibility for beginning the mini-lecture could follow the format in italics that follows. Note: The success of this introduction rests on alerting one of the participants to what you intend to do before the class and getting the participant's permission to use his/her possessions. No one else in the class would know this.

Begin the lecture by "stealing" a participant's bag.

Announce clearly to the class that the item is yours. State that this is obviously so because you have it in your possession. When participants protest because they have seen you take it off a desk or from beside a chair, dismiss these outcries and reiterate that it is yours and what's more it can be proved by showing everybody all the things inside the bag.

Unzip the bag and remove items such as brush or a comb or a pen or money or a pair of dark glasses. Try to choose an item that all participants will strongly relate to, and say "This is my" Then say "There, that proves it, this is my bag".

When participants protest and perhaps become outraged that you would delve into and reveal someone's possessions with such disregard for his/her privacy move on to the next stage of this introduction.

Say to the participants "Well if this is (...participant's name ...) bag how do you know that's so?" "Why are you all so positive it's not my bag?"

There will probably be answers something like this:

"We saw you take it."

"That's his/her bag"

"We have never seen you with a bag."

"We know you don't wear lipstick (or that brand of perfume)."

"That pencil case has his/her name on it."

At this point you could offer with mock indignation and to assist the other participants in

their efforts to prove the ownership of the possessions, something like, "If you were to test (...the participant's name ...) and myself on the detailed contents of the bag who would give a more accurate list?"

"Whose earnings and savings bought the things in the bag?"

Make one last try to keep the participant's bag.

Forcefully remark "What if I said I discovered this bag, no one owned it, then wouldn't it be mine?"

Hopefully there is some laughter at this stage as the participants respond to your preposterous suggestion. They should still think the bag rightfully belongs to the participant from whom it was taken in the first place.

Then ask "So - why do we say that Captain Cook discovered the east coast of Australia?"

As the participants come to see what you have been leading up to ask them some rhetorical questions which implicitly make the link between the participant's possession of the bag and the Australian Aborigines possession of the land.

"Were there people occupying Australia before Captain Cook arrived in April 1770?"

"Who had been on Australian land longer, Cook or the Aborigines?"

"Who understood the land of Australia better?"

"Who had used the land and its resources for their living?"

"Whose cultural and spiritual identity was bound up in the land?"

At this stage ask the question:

"What is one of the first things we understand Cook did when he reached the east coast of Australia?"

Say to the participants:

"He took possession of Australia in the name of King George III of Britain on the 22 August 1770."

"After all, he had discovered this new land."

The next step should begin to move participants to a greater understanding of the word "discovered", and the values that it embodies. Participants should be encouraged to suggest and talk about words and phrases that could be used in everyday language and in written accounts to describe what Cook and his fellow discoverers did. They could be asked to use terms to describe what you did when you took the participant's bag.

"He took it" "He pinched it" "He stole their lands" "He ripped them off" "He invaded Australia" "He began to conquer their lands"

The key to this introduction is to bring participants to an appreciation that the word "discovered" is loaded. The word has a bias in that it encompasses a perspective that has remained hidden for a considerable time. "Discovered" is a word that the discoverers would use. We have all used it at various times in the past. However, it places a veil over the conquerors and the invaders and makes no recognition of the existing Australian Aborigines. The word masks a gigantic theft. When words such as "discovered" are used over and over again they become unquestioned parts of our culture and in the phrase of a historian they become the "propaganda of the winners".

The "Bother" poster reproduced on page 65 of *A Better World For All. Book 1 Teacher's Notes*, expresses a similar view about the recorded history of the "hunters" and "hunted". (This could be made into an OHT).

The newspaper article titled "Paradise regained for Islanders" (Resource 8) can be used to return participants to the idea of a "discovered" Australia and the concept of Terra Nullius at the conclusion of the mini-lecture.

This could be used as an example of how attitudes are changing in Australia as a result of teachers, community facilitators, authors, etc. developing critical awareness in Australian society. Further newspaper articles dealing with the issue of Terra Nullius and the rights of Australian Aborigines are available through "Press Com".

This introduction (which has been adapted from Bigelow's paper, "Discovering Columbus: Rereading the Past" in *Language Arts*, Volume 66, Number 6, October 1989 pp.635-643), should help participants to examine critically common attitudes and language in Australian society, particularly attitudes of superiority, power, cultural and racial discrimination. It can be used to lead to the statement that Development Education is as much about feelings, values and attitudes as it is about knowledge and understanding. By using the diagram on page 18 of *A Better World for All. Book 1 Teacher's Notes*, participants can be led to see that Development Education also involves the skills and processes needed to undertake such things as critical inquiry, decision making and problem solving. As well they must be introduced to the importance of involvement and action.

At the conclusion of the mini-lecture the facilitator could suggest participants look back over their prioritized questions from Activity 2 and if desired carry on with (b) and/or (c) under procedure. If this (b) option is chosen the facilitator can suggest that some answers to the questions may have been provided by the lecture.

4. FITTING IT ALL TOGETHER

In this activity groups or pairs of participants, using given material, discuss and share ideas about Development Education. This creates an opportunity for participants to discuss particular education approaches that they may already be familiar with, and to show in diagrammatic form the links between them, and their shared global concerns.

The facilitator needs to have enough photocopies of the diagram from p16 of *A Better World For All. Book 1 Teacher's Notes* for small groups or pairs of participants. The diagram should be cut up into its 6 distinct parts: the globe and the 5 sequences depicting each "education". These cut outs should be put into an envelope with 3 or 4 squares of blank paper the same size as the 5 squares. The green arrows should be omitted. An A3 sheet of coloured paper, textas and paste should be available for each group. An overhead of the diagram one on p.16 should be made for use at the end.

- Participants in groups or pairs are given an envelope. They take out the materials and discuss them in relation to points raised in the mini-lecture and introductory activity.
- They are then given the other materials and asked to arrange the contents of

the envelope as a poster. They can add ideas by using the blank squares (e.g. ANTI-SEXIST EDUCATION, ANTI-RACIST EDUCATION, GLOBAL EDUCATION, etc. could be ones they may like to include); arrows lines, drawings and notes to give a particular message should be added with text.

- Finally they add a title and display their poster, and talk with others about their ideas. The facilitator should help highlight key ideas.

Through arranging the material from diagram 1 p.16 participants will be discussing the common concepts, organising ideas and major objectives of development education, environmental education and other educational thrusts. If they are encouraged to add further boxes they are likely to discuss language, race, gender, etc. or a specific subject area they are interested in.

By allowing the participants to work through the concepts related to each approach given and devising concepts for new boxes it is hoped they will consider the 5 common concerns on the central globe of the many educational thrusts, and realise Development Education is not something new but a dynamic process and a perspective that is already in place in many schools.

The facilitator can draw out similarities and differences between the posters, and could show the overhead of the original diagram.

5. LOOKING IN A CLASSROOM

In this activity participants discuss different classroom situations subjects and methods and decide what it is that makes them examples of development education. It allows participants to link their understanding of development education to classrooms they have been in, read about and curricula or subjects they will be teaching.

The facilitator needs to have enough photocopies of pp.24-25 of *A Better World for All. Book 1 Teacher's Notes* for the group. Each example is cut out and posted on card. Further examples can be typed up and added by the facilitator, especially ones relevant to the age-group the participants are preparing to teach eg infant, primary or secondary. Facilitators can make up the examples, or take ones from their experience. *A Better World for All. Book 2 Student Activities* has many ideas that can be written out briefly. Facilitators could also write up examples that would not be considered as development education if they wish. Photocopies of the objectives pp 19-20 could also be made available and an overhead of p.23 should be ready.

- Groups are given one example on the card. Using ideas from the mini-lecture and previous activities they should quickly discuss why they consider the example to be one of development education. An easy way to do this would be to underline or highlight key words or phrases, relating to knowledge, skills, attitudes and action, and to the methods used.
- Following this they could check their ideas against the list of objectives of development education pp.19 20.
- Groups share their examples and details of their discussion, with the facilitator checking off objectives as they are mentioned on an overhead.
- Finally the participants are asked to give examples from their experience during their own schooling, during practical teaching, or in the community

that highlight other objectives of development education.

- An OHT of the diagram from p.23 could be used as a summary.

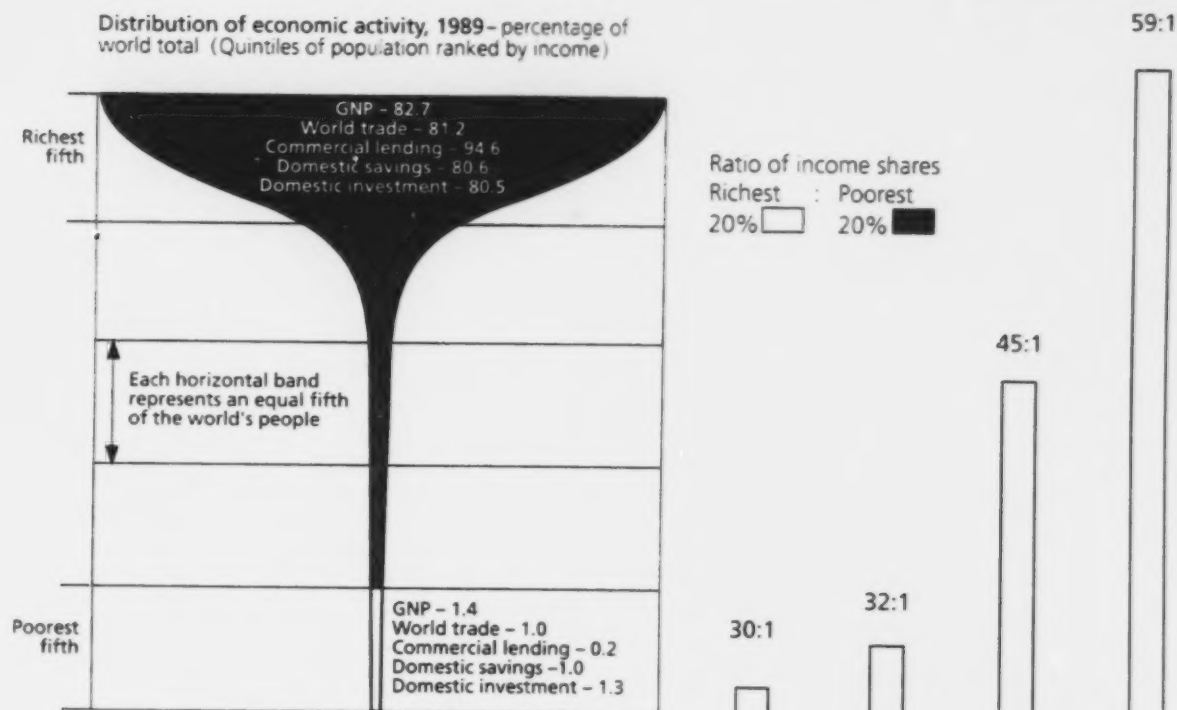
This activity should help participants see how teachers have, and they can, incorporate a development education perspective into classroom teaching. It should also serve as a conclusion by linking all the material from the previous activities and the mini-lecture.

6. SUMMING UP

The facilitator and participants should choose one or more of the OHTs 1-7 to show and help discuss why development education in Australian schools and classrooms is so important. The participants should be challenged by these graphics which show global inequality. We would hope that it leads them to reflect on their professional practice and act for the betterment of all.

RESOURCE 1

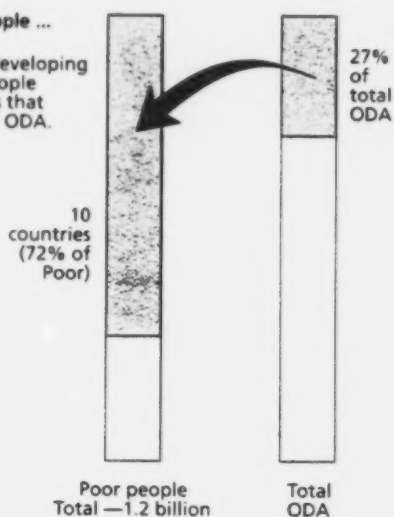
RESOURCE 1: RICH - POOR GAPS



Distribution of Foreign Aid (ODA)

to the poorest people ...

Over 72% of the developing countries' poor people live in 10 countries that receive 27% of all ODA. (1990)



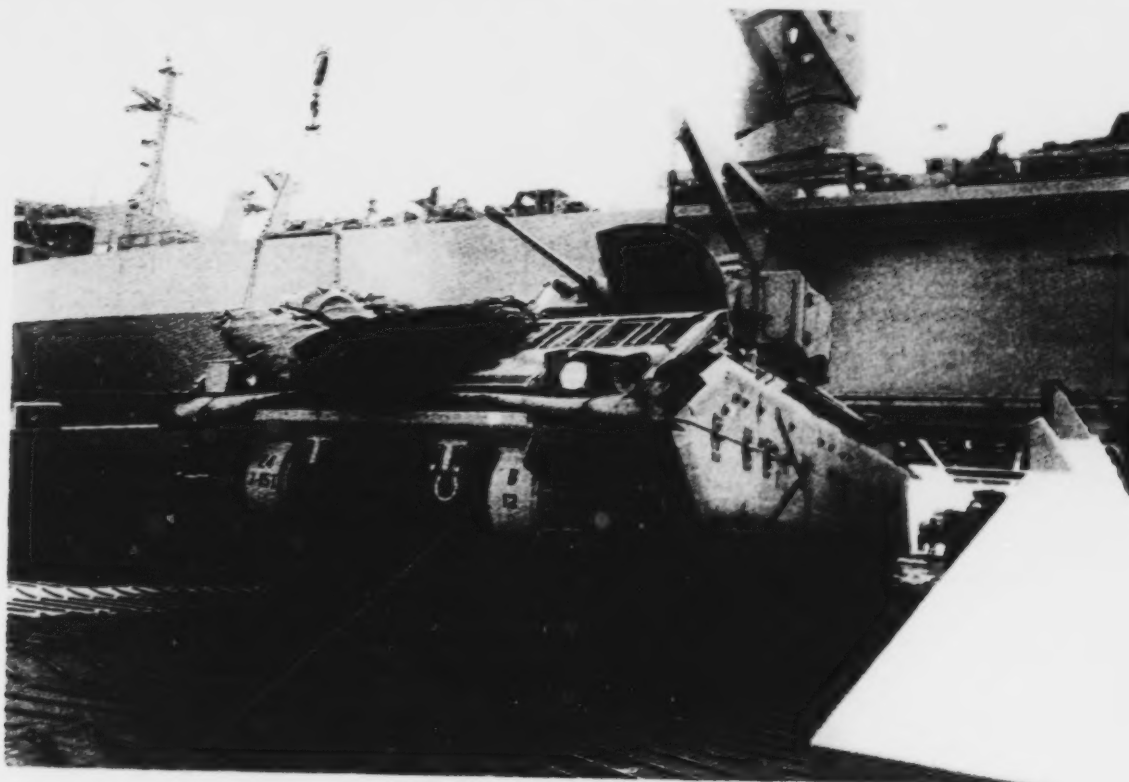
1960 1970 1980 1989

Source: United Nations Development Programme (1992) Press Kit for Human Development Report 1992: Putting People at the Centre of Development, UNDP, New York.



RESOURCE 2

RESOURCE 2: MILITARY SPENDING



Three percent annual cuts in military spending in rich and poor countries through the 1990s could yield a \$1.5 trillion peace dividend for human development, says UNDP's *Human Development Report*.

Photo credit: Dennis Brack/Black Star

Source: United Nations Development Programme (1992) Press Kit for *Human Development Report 1992: Putting People at the Centre of Development*, UNDP, New York.

RESOURCE 3

RESOURCE 3: THE LITERACY GAP



Closing the literacy gap: three generations share a classroom in Burkina Faso, where male literacy rate is only 28 per cent and that of women is 9 per cent.

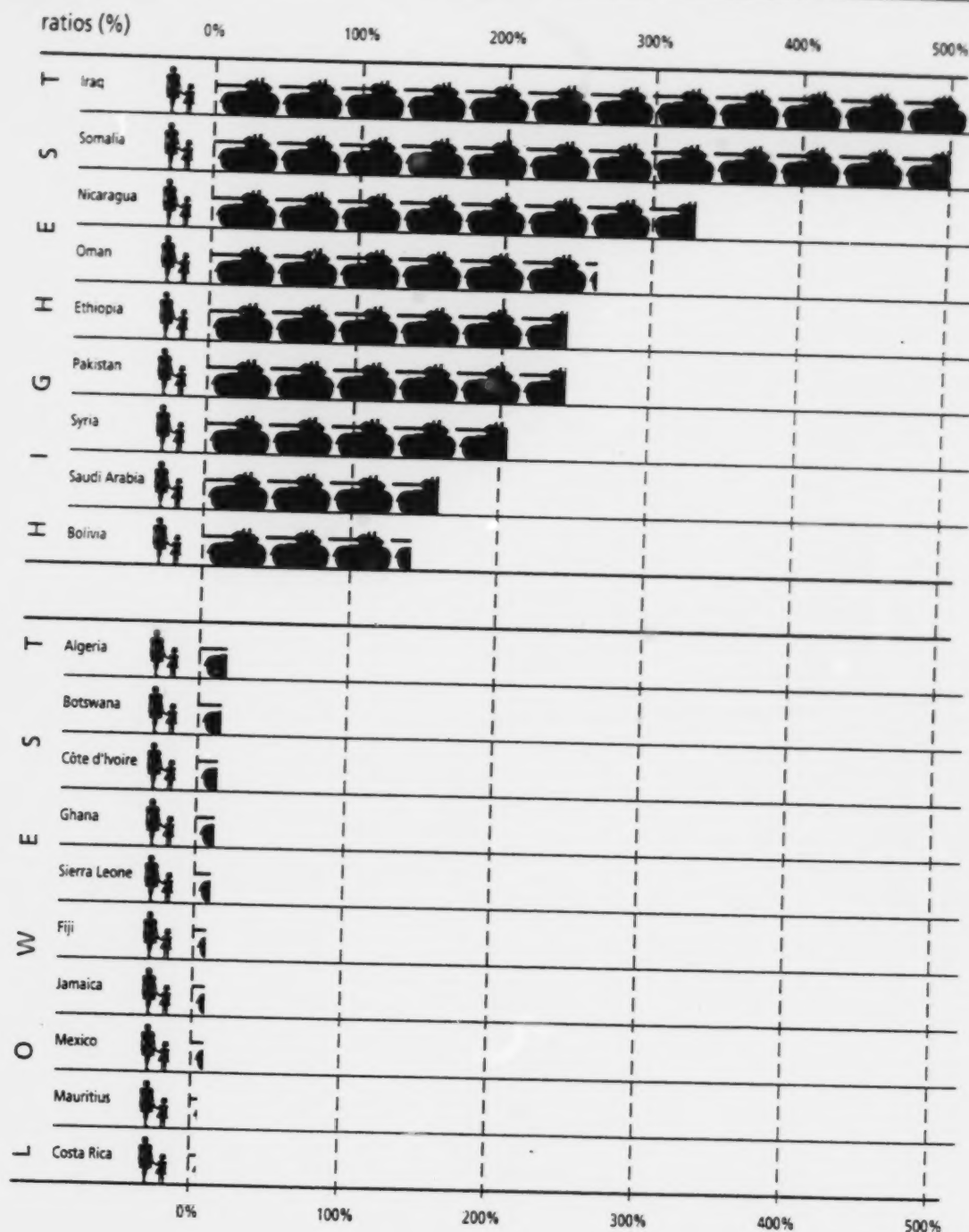
Photo credit: Ruth Massey, UNDP

Source: United Nations Development Programme (1992) *Press Kit for Human Development Report 1992: Putting People at the Centre of Development*, UNDP, New York.



RESOURCE 4

RESOURCE 4: MILITARY / SOCIAL SPENDING IMBALANCE IN THE THIRD WORLD

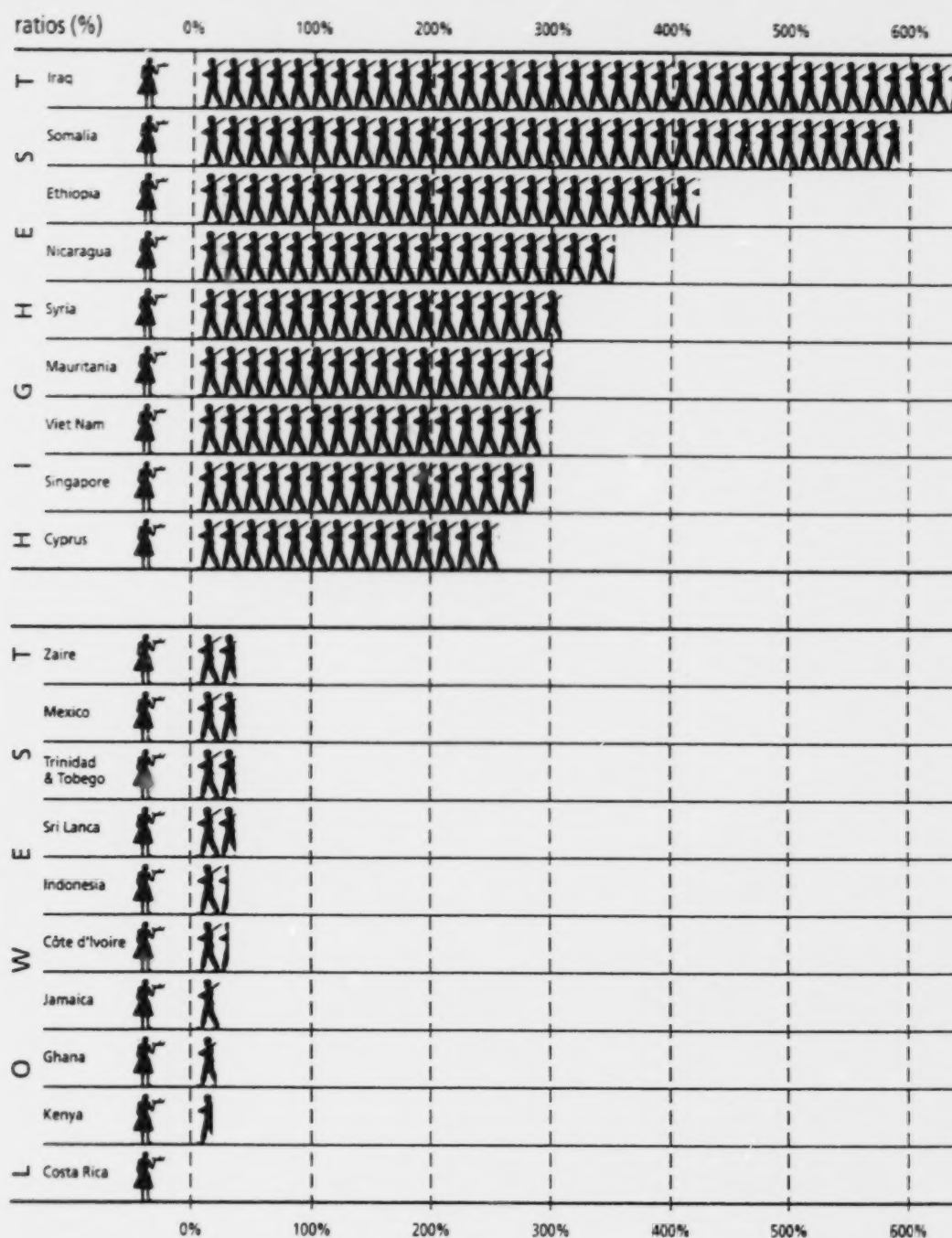


Source: United Nations Development Programme (1992) Press Kit for Human Development Report 1992: Putting People at the Centre of Development., UNDP, New York.



RESOURCE 5

RESOURCE 5: SOLDIER/TEACHER SPENDING IMBALANCE IN THE THIRD WORLD



Source: United Nations Development Programme (1992) Press Kit for Human Development Report 1992: Putting People at the Centre of Development., UNDP, New York.



RESOURCE 6

RESOURCE 6: BALANCE SHEET OF HUMAN DEVELOPMENT - DEVELOPING COUNTRIES

Balance sheet of human development—developing countries	
PROGRESS	DEPRIVATION
LIFE EXPECTANCY	
Average life expectancy is now 63 years—17 years more than in 1960. In 26 developing countries, it is above 70 years.	14 million children die every year before they reach the age of five.
HEALTH	
- Two-thirds of the people have ready access to health services. - Access to safe water has increased in the past 20 years by more than two-thirds. - Public expenditure on health as a proportion of GNP increased by nearly 50% in the past 30 years.	- Nearly 1.5 billion people lack access to health services. 1.3 billion people still lack access to safe water. 2.3 billion people lack access to sanitation. - In Sub-Saharan Africa, one adult in 40 is HIV-infected.
FOOD AND NUTRITION	
Daily calorie supply is now about 110% of the overall requirement (compared with 90% some 25 years ago).	- Over 100 million people were affected by famine in 1990. - More than a quarter of the world's people do not get enough food, and nearly one billion go hungry.
EDUCATION	
- The adult literacy rate has increased by more than one-third since 1970. - Nearly three-quarters of children are enrolled in school.	- Over 300 million children are out of primary and secondary school. - Nearly one billion adults are illiterate, nearly 600 million of them women.
INCOME	
- More than 2% of GDP is spent on social security benefits. - Employee earnings grew some 3% annually in the 1980s, twice the rate in the 1970s and greater than that in industrial countries.	1.2 billion people still barely survive—in absolute poverty. - About half the people in Sub-Saharan Africa are below the poverty line.
DISEASE	
- The mortality rate of young children has been halved in the past 30 years. - The immunization rate for one-year-old children has increased from one-quarter to more than three-quarters during the past 10 years.	- Nearly one million children in Sub-Saharan Africa are infected with HIV. - Infant mortality figures in the poorest nations are 115 per 1,000 live births. 180 million young children are still malnourished.
GENDER	
The male-female gaps in primary education have decreased by half in the past 20 to 30 years, and in literacy by one-third in the past 20 years.	- Females receive on average only half the higher education of males. - Female representation in parliament is only 14% that of males.

Source: United Nations Development Programme (1992) *Press Kit for Human Development Report 1992: Putting People at the Centre of Development*, UNDP, New York.

RESOURCE 7

RESOURCE 7: BALANCE SHEET OF HUMAN DEVELOPMENT - INDUSTRIAL COUNTRIES

Balance sheet of human development—industrial countries	
PROGRESS	DEPRIVATION
LIFE EXPECTANCY AND HEALTH	
- Average life expectancy is 75 years. - There is one doctor for every 460 people. - Two-thirds of the people are eligible for public health insurance and nearly three-quarters of the health bills are paid by public insurance.	- One in three adults smokes. - Nearly five people in every 1,000 are seriously injured in road accidents. - The cost of in-patient care has increased by two-thirds since 1980. - Some 300,000 cases of AIDS have been reported to date.
EDUCATION	
- The proportion of the population going on to university has increased from less than one-quarter in 1965 to more than one-third today. - There are more than 80 scientists and technicians for every 1,000 people.	- One-third of adults have not completed secondary education. - For every 100 teachers, there are 97 soldiers.
INCOME AND EMPLOYMENT	
- Average income has increased three and a half times in the past 30 years. - Social security benefits average nearly 11% of GDP, and 1.3% of GDP is spent on labour market programmes. - More than one-quarter of the labour force is unionized.	- In the OECD countries alone, an estimated 30 million people are unemployed, and one-third of them have been out of work for over two years. The rate of unemployment among youth is 13% and rising. - The wealthiest 20% of the people receive on average seven times the income of the poorest 20%.
WOMEN	
- At the secondary level, female school enrolment is higher than male. At the tertiary level, it is about equal—though about one-third less for science. - Women's participation in the labour force was 44% of men's in 1960. Now it is 78%.	- Women's wages are still on average only two-thirds those of men, and their unemployment rate is consistently higher. - Each year, one woman in 2,000 is reported raped.
LEISURE	
Nearly one person in two has a TV, one in three reads a newspaper and eight in 10 visit a museum at least once a year.	- One in every 500 people is in jail. - The average homicide rate is four per 100,000. - The annual divorce rate for people over 25 is nearly 5%.
ENVIRONMENT	
- Since 1965, production has become six times less energy-intensive. - Some 60% of people are served by water-treatment facilities. - Industrial and other countries have agreed to phase out major CFCs (chlorofluorocarbons) by the year 2000.	- The greenhouse index is four times that of the developing world. 42 kilograms of air pollutants are emitted annually per 100 people. - Nearly 10 metric tons of hazardous and special waste are generated annually per square kilometre.

Source: United Nations Development Programme (1992) *Press Kit for Human Development Report 1992: Putting People at the Centre of Development*, UNDP, New York.



RESOURCE 8

RESOURCE 8: PARADISE REGAINED FOR ISLANDERS

Source: *The Advertiser*, 1992.

A High Court ruling on June 3 granted Murray Islanders title to their ancestral lands. SONIA ULLIANA reports.

Brisbane: Serene pride shines from the smiling faces of the Mer Islanders.

Their contentment as they dance and feast under the tin roofs of community beach shelters stems from the knowledge that their tiny, remote, piece of Australia is, after more than 200 years, again their own.

The community of 450 from the Murray Islands, in the Torres Strait, believes its people can never again be made to feel like trespassers in their homeland.

But for many of them High Court recognition of their "native title" does little other than prove to Australian governments what the islanders have known all their lives — the Murray Islands belong to them.

Last week, a landmark High Court decision rejected *Terra Nullius* — the legal concept that Australia was unoccupied at the time of British colonisation — and recognised the land rights of the Murray Islanders.

Aborigines, politicians and legal experts have said the historic decision has far-reaching implications despite the judges' statements their decision applied only to the Murray Island case.

In the ruling, Mr Justice Deane and Mr Justice Gaudron described the legal use of *Terra Nullius* to justify the dispossession of Aborigines as "the darkest aspect of the history of this nation".

They said Australia would remain diminished unless and until there was acknowledgment of and a retreat from those injustices.

The ruling, however, recognised that State and Territory governments could veto legitimate Aboriginal land claims without paying compensation.

The case was fought through State and Federal courts for 10 years at the instigation of Mr Eddie Mabo.

Mr Mabo, a Murray Islander who lived in Townsville for much of his adult life, was shocked to discover he had lost status as an islander in the eyes of the Queensland Government when he returned to Mer Island to live in the early 1980s.

Mr Mabo's tenacity and persistence have made him a hero on Mer. But he did not live to hear the decision, dying in January from cancer.

Mer Island Anglican priest, the Reverend Dave Passi, said the Mabo case was a cause for celebration but had no real significance for many Islanders.

"No one here has ever considered that this land belonged to the State Government," Mr Passi said.

"Whatever the legal outcome, this land has always been ours and will always be ours. The fact that we won means only that we can stand eye-to-eye with the rest of Australia.

"Since the missionaries came to the Murray Islands in 1871 we did not know where we stood, and now, finally, we do.

"Now we have our land and we are no longer oppressed, or seen as being oppressed by the governments."

Mr Ron Day, former Murray Islands Council chairman said: "Our people lived here way before Captain Cook was born.

"We never asked for anything that wasn't rightfully ours. When the British came to Australia we already had a civilisation here.

"We had religion and we had law and order. When you look at those facts, the whole case was not very complicated at all."

The Murray Island 210km north-east of Thursday Island, consist of Mer, Dowar and Waler Islands.

Virtually self-sufficient

Only the 526ha Mer Island is inhabited, but villagers fish where their ancestors lived on Waler and Dowar, and the latter is used exclusively as a burial ground.

Murray Islanders grow their own fruit and vegetables, and eat fresh fish, clams and crayfish. Once a month supplies are flown in from Thursday Island and a doctor visits.

The villagers live in beach huts or fibro houses, most with sand or concrete floors.

The island has eight tribes, or families, and boundaries divide the village into separate sections, each belonging to a different family. It is a virtually untouched tropical paradise, rich with lush vegetation and surrounded by white beaches and blue-green reef waters.

Mer Island has a primary school, but teenagers must go to Thursday Island.

There are two vehicles — a council truck and another truck used as a taxi.

Generators provide electricity, but a power station on the island should be completed by September.

Mr Passi said the islanders' future challenges lay in melding technology with island life, and in retaining their old values.

Christianity is practised on the island and the principles of the ancient Malo religion — peace and sharing — are held dear.

Mr Passi said there were conflicts on the island, "as there are in any community", but the lifestyle was mostly peaceful.

Alcohol and drug abuse had caused concern, as had technology.

Mr Passi said the process of modernisation should proceed slowly.

"We have to approach the future with caution and try to somehow find a balance by keeping out the bad things and allowing the good ones in," he said.

EXPLORING *the* LINKS

ENVIRONMENT AND DEVELOPMENT

MARGUERITE YOUNG
WORLD WIDE FUND FOR NATURE

INTRODUCTION

This workshop is one of the core modules in this series. It explores the links between development education and environmental education. Rarely are global issues or issues involving the future of our lives on earth issues concerned solely with development or environment. A world in which we live according to the principles of ecologically sustainable development relies on an interdependent world to which we all have a responsibility to contribute. Ecologically sustainable development (ESD) is defined for the purpose of this workshop as "Improving the quality of human life while living within the carrying capacity of supporting ecosystems" as outlined in *Caring for the Earth* published by IUCN, UNEP and WWF (1991).

OUTCOMES

Through participation in the activities in this workshop, participants will:

- consolidate the underpinning philosophy and information gained in the separate workshops on development education and environmental education;
- understand the links between development education and environmental education;
- understand the relevance of an integrated approach to the teaching of development and environmental issues;
- develop skills to evaluate activities for their content and method; and
- realise that the process of learning is as important as the content.

WORKSHOP OUTLINE

The workshop consists of activities organised around three themes.

1. Development Education and Environmental Education - Mutually Exclusive?

A. Ice breaker - initial reactions to a cartoon.

B. Warm Up: To which type of education does the topic fit?

2. Exploring the Links between Development Education and Environmental Education.

- A. Mini lecture on "A Proliferation of Educations" and discussion on the similarities and differences between the two educations.
- B. Two classroom activities which explore the links are analysed.

3. Education for the Future

- A. Mini lecture and discussion on "Education for the future".
- B. Review of previous activities to ascertain if they cover the points in the educational rationale just explored.

The workshop concludes with a review / consolidation of key themes and with participants being given a follow-on assignment to devise a 40 minute classroom activity.

MATERIALS REQUIRED READING:

See Reading 2 in the Introduction section of this manual: Greig, S., Pike, G. and Selby, D. (1987) *Earthrights: Education as if People Mattered*, WWF and Kogan Page, London, pp. 23-31, 36-37.

OVERHEAD TRANSPARENCY MASTERS:

- OHT 1: Workshop Overview
- OHT 2: Which?
- OHT 3: An Easy Puzzle
- OHT 4: Important Pupil Outcomes
- OHT 5: Main Points of the Workshop

RESOURCES:

- Resource 1: Cartoon Worksheet
- Resource 2: Topics for Investigation
- Resource 3: Four Educations? One Education?
- Resource 4: Who Owns the Reefs?
- Resource 5: Land Use Conflict Simulation
- Resource 6: Solutions for Pollution
- Resource 7: The Integrated Project in Arid Lands

ADDITIONAL READING This workshop is fully self-contained and needs no additional resources. However the videos contained in the *Only One Earth* WWF Multi-Media Pack would be an asset if this pack is available.

Grieg, S., Pike, G. and Selby, D. (1987) *Earthright: Education As If the Planet Really Mattered*, WWF, London, pp 23-38.

Hicks, D. (1991) *Exploring Alternative Futures : A Teachers Interim Guide*, Global Futures Project, Institute of Education, University of London.

Pye-Smith, C. (1987) *The Planet in the Pawn Shop*, in *Only One Earth*, WWF Multi-Media Education Pack, WWF UK, pp. 22-26.

Participant Activities

WWF *Only One Earth* WWF Multi-Media Education Pack, WWF, UK.

Leslie Y. Dawson (1992) *How to Interpret Natural and Historical Resources*, WWF Latin American and Caribbean Program, Washington DC.

Huckle, J. (coordinator) (1988) *What We Consume, Unit 1-10 China*, WWF UK and Bedford College of Higher Education in conjunction with The Richmond Publishing Company, UK.

Most of these are available for purchase from : The Ideas Centre, PO Box A100, Sydney South 2000.



ACTIVITIES

1. DEVELOPMENT EDUCATION AND ENVIRONMENTAL EDUCATION - MUTUALLY EXCLUSIVE?

A. Icebreaker: Initial reactions

The purpose of this activity is to confront participants with their own initial reactions to a development/environment issue, and then to compare this initial reaction with how they feel at the end of the workshop.

- Photocopy the cartoon worksheet on Resource 1.
- Distribute one copy per participant at the beginning of class and ask participants to quickly answer the questions on the worksheet.
- Ask participants to put the sheet away until the end of the workshop.

B. Overview of the workshop

To acquaint participants with the workshop, go through the sequence of points on OHT 1.

C. "Which type of education?"

This activity provokes discussion as to which subject belongs where and leads participants to the realisation that there is much overlap between environmental and development education.

- Photocopy Resource 2 and cut into 24 cards. A complete set will be necessary for each group.
- Divide the class into groups of 4-6 participants.
- Give each group a set of cards made from Resource 2 and ask "In which type of education would you learn about the following?" Each person in each team takes a card off the pile in turn and assisted by everybody places that card onto one of four piles: (i) Development Education, (ii) Environmental Education, (iii) both or (iv) neither.
- Use OHT 2, to discuss the difficulty of classifying content and issues.

2. EXPLORING THE LINKS BETWEEN DEVELOPMENT EDUCATION AND ENVIRONMENTAL EDUCATION

A. Mini lecture and discussion - 'A Proliferation of Educations'

The purpose of this part of the workshop is to consolidate participants' appreciation of the links between development education and environmental education. The best resource for this is a section from Reading 1: Greig, S., Pike, G and Selby, D. (1987) "A proliferation of educations" in *Earthrights: Education As If the Earth Really Mattered*, WWF, London, p22 - 38.

- Present the material contained in the reading.
- Hand out Resource 3. It is interesting to cut this out in the shape of the diagram as it attracts great interest from participants in this form.
- Lead participants to the conclusion that both development and environmental education "share relatively few and sometimes no mutual or overlapping concerns at their narrow focus. At their broad focus, however, there is an extremely marked degree of convergence between the two educations to the point where it becomes difficult to conceive of them as discrete fields." (Pike and Selby 1987).

- Use OHT 3 to lead a discussion on why the different types of education are "complementary, interdependent and mutually illuminating."

B. Classroom activities that explore the links

This is the major part of the workshop and is based upon the four classroom activities in Resources 4, 5, 6 and 7. The four activities are based upon material in four different WWF education packs. Each one explores the links between environmental and development issues. The four activities are:

Resource 4: "Who owns the Reefs and Lagoons of Solomon Islands?" from Ocean Fisheries booklet in WWF *Only One Earth* WWF Multimedia Education pack UK.

Resource 5: Land Use Conflict Simulation, in L. Dawson (1992) *How to Interpret Natural and Historical Resources*, WWF Latin America and Caribbean Program, WWF Washington DC, pp. 87-91.

Resource 6: Solutions for Pollution, Activity 8.4 in J. Huckle (1988) *What We Consume - China*, WWF(UK) and Bedford College of Higher Education in conjunction with The Richmond Publishing Company, pp. 48-53.

Resource 7: The Integrated Project in Arid Lands, in WWF (1988) *Only One Earth* WWF Multimedia Education Pack UK.

- Give participants a brief overview of the themes of the four activities and divide them into small groups based upon their choices of the four themes. Distribute copies of chosen activities to each group.
- Ask participants to actually work through their chosen activities as if they were school students. This may take 30 minutes.
- As the groups finish their activities, ask them to prepare a group report which:
 - outlines the environment - development dilemma;
 - explains why the real people involved found making a decision on the dilemma difficult;
 - outlines the decision they came to (and reasons); and
 - identifies the educational value of the activity and how it might be adapted to use with a class they are familiar with.
- Give each group 5-10 minutes to report.

3. EDUCATION FOR THE FUTURE

A. Mini lecture and Discussion

The purpose of this activity is to provoke discussion that both types of education are about education "for the future" and that the process of learning is as important as the content.

- Ask the question: "In its broadest sense, then, both environmental education and development education should be about?..... hoping to elicit that it is about "teaching participants to work for future change that will create a better world for all".
- Lead a discussion on "What sort of knowledge, attitude and skills are required so that pupils are educated *for the future*?" OHT 4 provides one list against which participants can review their answers.

B. Review of classroom activities

In this activity, the classroom activities just studied are evaluated for their ability to educate "for the future". Participants also try to place these types of activities in the context of the school curriculum.

- Ask participants to reform their groups and to review their classroom activity to see if it encourages or fosters the pupil outcomes just discussed.
- Discuss these activities and determine if they are good educational resources for "education for the future". Why?

C. Review

- Use OHT 5 to review the main points of the workshop form the participants.
- Ask them to take out the icebreaker sheet which they filled in at the beginning of the workshop.
- Ask them "Are the issues this simple?" "Do you feel differently now?"
- Discuss the follow-on activity at the bottom of the icebreaker sheet.
- Follow-on Take-home Activity: Using the cartoon in the icebreaker exercise, plan a 40 minute classroom activity. Make sure your activity integrates both development and environmental issues and embodies the pupil outcomes discussed in the workshop.

OHT 1

DEVELOPMENT EDUCATION AND ENVIRONMENTAL EDUCATION : EXPLORING THE LINKS

Overview of workshop

1. Environmental education and development education - mutually exclusive?
2. Exploring the links between environmental education and development education.
3. Education 'For the Future'.
4. Review



OHT 2

WHICH?
DEVELOPMENT EDUCATION?
ENVIRONMENTAL EDUCATION?
BOTH? NEITHER?

DE	EE	BOTH	N	TOPIC
				1. Foreign Aid
				2. Pollution of Australian rivers
				3. Recycling of plastic bags
				4. War and peace issues
				5. Hugging trees
				6. Rainforest devastation in Amazonia
				7. Tourism and its impacts
				8. Ecologically Sustainable Development
				9. Over population in the third world
				10. Over consumption in the developed world
				11. Politics
				12. Women and work
				13. Racism and aborigines
				14. Sampling of stream water
				15. Examining the animals in leaf litter
				16. Hunger
				17. Refugees
				18. Resources - their distribution, needs, consumption
				19. Aboriginal land rights
				20. The declaration of protected areas
				21. Acid rain in Europe
				22. Poverty
				23. Biotechnology
				24. Multinational companies

OHT 3

AN EASY PUZZLE!

Why is it difficult to conceive environmental education and development education as being discrete fields?

1. Development decisions for human communities cannot disregard their environmental impact.
2. Environmental conservation is not contrary to development.
3. The local, national and international are interconnected.
4. Real learning involves looking to the future as well as the past and present.
5. The process of learning “for the environment” and “for better quality of life for all”, is the same. Participants require the attitudes and skills necessary for active participation in the political process so they can become subjects rather than objects in their own history.



OHT 4

IMPORTANT PUPIL OUTCOMES

1. Pupil motivation
2. Anticipating change
3. Critical thinking
4. Clarifying values
5. Decision making
6. Creative imagination
7. A better world
8. Responsible citizenship

OHT 5

MAIN POINTS OF THE WORKSHOP

- Development education and environmental education are not mutually exclusive
- Both types of educations have common content at their broadest sense
- Both involve education 'for the future'
- Both require a common approach and the process of learning is as important as the content



RESOURCE 1



Answer the following questions at the beginning of the workshop.

1. What is your initial reaction to this cartoon?
2. What is the main issue involved in the cartoon?
3. Are the issues of environment and development an either/or situation? Is this really what development and environment issues are about or are the issues much more complex?

Please put this sheet away now till the end of the workshop.

Follow-on activity

Using the cartoon devise a 40 minute classroom activity. Make sure your activity integrates both development and environmental issues and embodies the pupil outcomes discussed in the workshop.

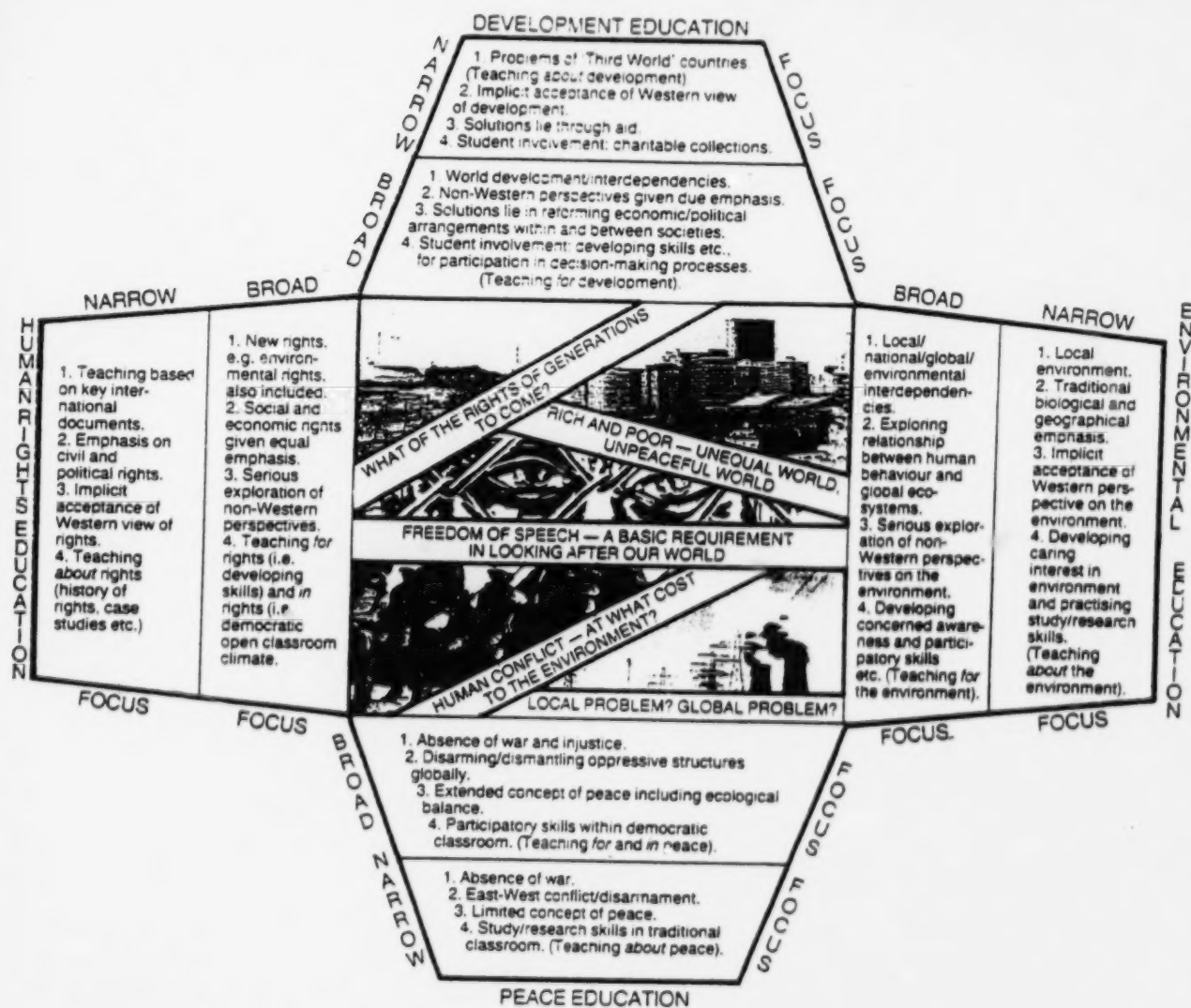
RESOURCE 2

FOREIGN AID	POLLUTION OF AUSTRALIAN RIVERS	RECYCLING OF PLASTIC BAGS	WAR AND PEACE
HUGGING TREES	RAINFOREST DEVASTATION	TOURISM AND ITS IMPACTS	ECOLOGICALLY SUSTAINABLE DEVELOPMENT
OVER- CONSUMPTION IN THE DEVEL- OPED WORLD	POLITICS	WOMEN AND THE DIVISION OF LABOUR	RACISM AND ABORIGINES
SAMPLING OF STREAM WATER	EXAMINING ANIMALS IN LEAF LITTER	HUNGER	REFUGEES
RESOURCES- THEIR DISTRIBUTION, NEEDS, CONSUMPTION	ABORIGINAL LAND RIGHTS	THE DECLARATION OF PROTECTED AREAS	ACID RAIN IN EUROPE
POVERTY	BIO- TECHNOLOGY	MULTI- NATIONAL COMPANIES	OVER- POPULATION IN THE THIRD WORLD



RESOURCE 3

Source: Grieg, S., Pike, G. and Selby, D. (1987) *Earthrights: Education As If the Planet Really Mattered*, WWF, London, pp 23-38.



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RESOURCE 4

Source: Ocean fisheries, in *Only One Earth*, Multi-media Education Pack (1989), WWF UK, Godalming.

EXTRACT 1

The traditional custom of Solomon Islands is that any Solomon Islander is free to fish on the open sea, but that the shallow coastal waters of the reefs and lagoons belong to particular groups of people in the same way that land does. But when most Solomon Islanders talk of "owning" land or coastal fishing grounds they mean something quite different from the kind of "ownership" which Europeans practise and which they introduced to Solomon Islands as part of British colonial law. The best way to see who natural resources belong to is to work out what rights various people have on the reefs and lagoons.

The first thing to remember about Solomon Islanders' rights in their lands and coastal waters is that they are usually shared by groups of relatives, not held by individuals as among Europeans. People inherit their rights in land and coastal waters from their ancestors and they pass them on to their children. An area is controlled and managed by a group of people who share the same ancestors, either through a line of fathers and sons, or a line of mothers and daughters, depending on the custom of their district. They are said to have "primary rights", which means that, as individuals, they can use the natural resources of the land or coastal waters. They can also join with others in their group in deciding whether to allow other people to use these resources too. But many of these other people are also relatives, and as such they may have "secondary rights" which allow them to use natural resources but not to have a say in who else is allowed to use them. These people would in any case, have primary rights in another area elsewhere. In English, Solomon Islanders often speak of people with primary rights as "owning" the resources and those with secondary rights as "using" them.

Exactly what primary or secondary rights entitle people to do varies in different areas and can become very complicated. But above all they allow people a choice of where to live, make their gardens or fish, while ensuring that each area is managed by

a particular group, and that each group inherits an area which it can manage. In the past, any group which had primary rights in more resources than it needed for a living was pleased to welcome others in order to share the resources and to increase the size and strength of their local community. As long as they are only producing food for themselves, people with secondary rights can use the land and sea without threatening the interests of their hosts who have the primary rights. The forest which they clear for their gardens will eventually regrow and the fish and shellfish replenish themselves. When these resources run low the leaders of the primary rights group can restrict gardening and fishing accordingly. When necessary some people may be asked to move elsewhere to live. In the past this flexible system of land and fishing rights conserved natural resources and distributed them according to people's needs.

But what happens when there is money to be made from these natural resources? For example, what should happen when someone wants to sell timber to saw mills or make plantations of coconuts which occupy the land for many years? What if someone wants to catch extra fish to sell in a town market? What if there is money to be made by selling coral reef fish as bait to commercial tuna fishing boats? The problem is that the traditional system of resource rights does not allow for this so called "cash economy". If it is the people with primary rights who should gain, how should they divide up the money? And what about all their relatives who have inherited secondary rights who may then no longer be able to use the resources themselves? These are some of the questions facing Solomon Islanders today in their search for economic development and prosperity. There are no easy answers to these questions.

Source: Ben Bur, Museum of Mankind, an anthropologist who has worked in Solomon Islands

EXTRACT 2

Consider the issue of baitfishing in a little more detail. Many of the tuna in the open ocean around Solomon Islands are caught by the 'pole-and-line' technique. The success of this fishing depends on a constant supply of live bait fish taken from lagoons and reefs around the islands. At the moment, these bait fish are not harvested by the people from the communities with traditional fishing rights. Instead, they are harvested by the employees of the two big tuna companies in the Solomon Islands. The company then pays 'bait fish rent' to the people who have

traditional rights on the reefs and lagoons in question. To make it easier to calculate rent payments the government has set up a system of bait fish areas.

The boundaries of these areas are related to the traditional boundaries which mark out where different groups of people hold traditional fishing rights. However, the boundaries rarely correspond exactly. As the accompanying map shows, this can lead to disputes about which groups of people should receive baitfish rent.

Based on: A traditional base for inshore fisheries in Solomon Islands. Graham Barnes. UNESCO 1985

EXTRACT 3

Numerous criticisms about how baitfish areas are mapped can be made. . . . Apparently, boundaries have been determined on the basis of discussions with individuals or groups claiming traditional fishing rights in an area. But no-one has investigated whether these claims are genuine. Also, there have not been opportunities for other individuals or groups to make counter-claims. Some of these counter-claims are likely to be genuine. . . . There have also been reports of arbitrary changes of baitfish area boundaries. . . . Not surprisingly then, there have been numerous complaints. . . .

The mapping of baitfish areas has certainly paid attention to some aspects of traditional fisheries rights, a requirement for development of fisheries in Solomon Islands. However, the approach has been too simplistic and too hurried. The above indicates that the way baitfish mapping is presently carried out is inadequate as a basis for fisheries development in Solomon Islands. . . . It points to a need for a fresh and more detailed look at traditional fisheries as they exist today, before further commercial development takes place in coastal areas subject to traditional control. . . .

Current national government policy stresses that matters arising about traditional land and fishing rights need to be discussed at local government level — in Area Councils and Provincial Assemblies. With some technical advice from relevant national government departments, it should be possible at the local level to work out, by

general agreement, a 'basic fisheries tradition' for each culture group. Among groups long interconnected by trade, marriage and warfare such a tradition is likely to be shared. Defining a 'basic fisheries tradition' need not involve detailed description. Key elements of tradition should be identified and agreed upon by the communities within a culture group. Key elements to consider include: the location of traditional areas and their boundaries, primary and secondary rights and who is responsible for the management of traditional fisheries areas. Another vital element to think about is the principles for distribution of the benefits resulting from the exploitation of natural resources. The baitfishing issue shows how important this is. At the moment, complaints frequently arise because of deficiencies and/or injustices in the distribution of baitfish rents by representatives of primary rights groups (the government chooses not to get involved in how baitfish rent should be distributed). . . .

Examination of each 'basic fisheries tradition' at the provincial administrative level would make it possible to establish a regional framework and guidelines for inshore fisheries development — with allowance for major differences of tradition within the province.

Wherever possible, an effort should be made to identify which guidelines could be applied on a national basis, throughout all seven provinces. It would be a mistake, however, to try to override major regional and/or cultural differences.

Based on: A traditional base for inshore fisheries in Solomon Islands. Graham Barnes. UNESCO 1985

QUESTIONS AND ACTIVITIES

Read through Extract 1 on this activity sheet and then answer questions 1 to 3.

- 1 What do most Solomon Islanders mean when they talk about "owning" a piece of land or a coral reef? What would most Europeans mean if he or she said "I own this piece of land?"
- 2 In paragraph 3 of Extract 1 Ben Burt says: "in the past this flexible system of land and fishing rights conserved natural resources and distributed them according to people's needs." In your own words, briefly described how in earlier times this system might have worked for a typical coral reef in Solomon Islands.



Nowadays in Solomon Islands, unlike in the past, money can be made by harvesting the country's natural resources. Briefly consider whether "the cash economy" that now exists in the Solomons makes it more or less likely that natural resources from a coral reef are conserved and distributed according to people's needs.

- 3 Finally, just think about the case when someone with primary rights on a coral reef in Solomon Islands decides to invest in a larger fishing boat with new fishing equipment so that he can catch more fish to sell in the local market. This person has invested additional time and money to catch fish so should he get all the additional benefits? What about the other people with primary rights on the coral reef? What about those with secondary rights?

Now read Extract 2 and study the map showing typical fishing area boundaries. Then answer questions 4-7.

- 4 Look at the map. If a baitfishing boat caught fish in position X which group of people (Village A or B) would receive the baitfish rent from the fishing company?
- 5 If a boat caught fish in position Y which group of people would receive baitfish rent from the fishing company?
- 6 In which of the above situations might villages A & B disagree about who receives baitfish rent? Briefly say why.

Such disagreements have in fact occurred. What attention should the government pay to criticisms from local people about the way it marks out baitfish area boundaries using prominent landscape features? Briefly justify your answer.

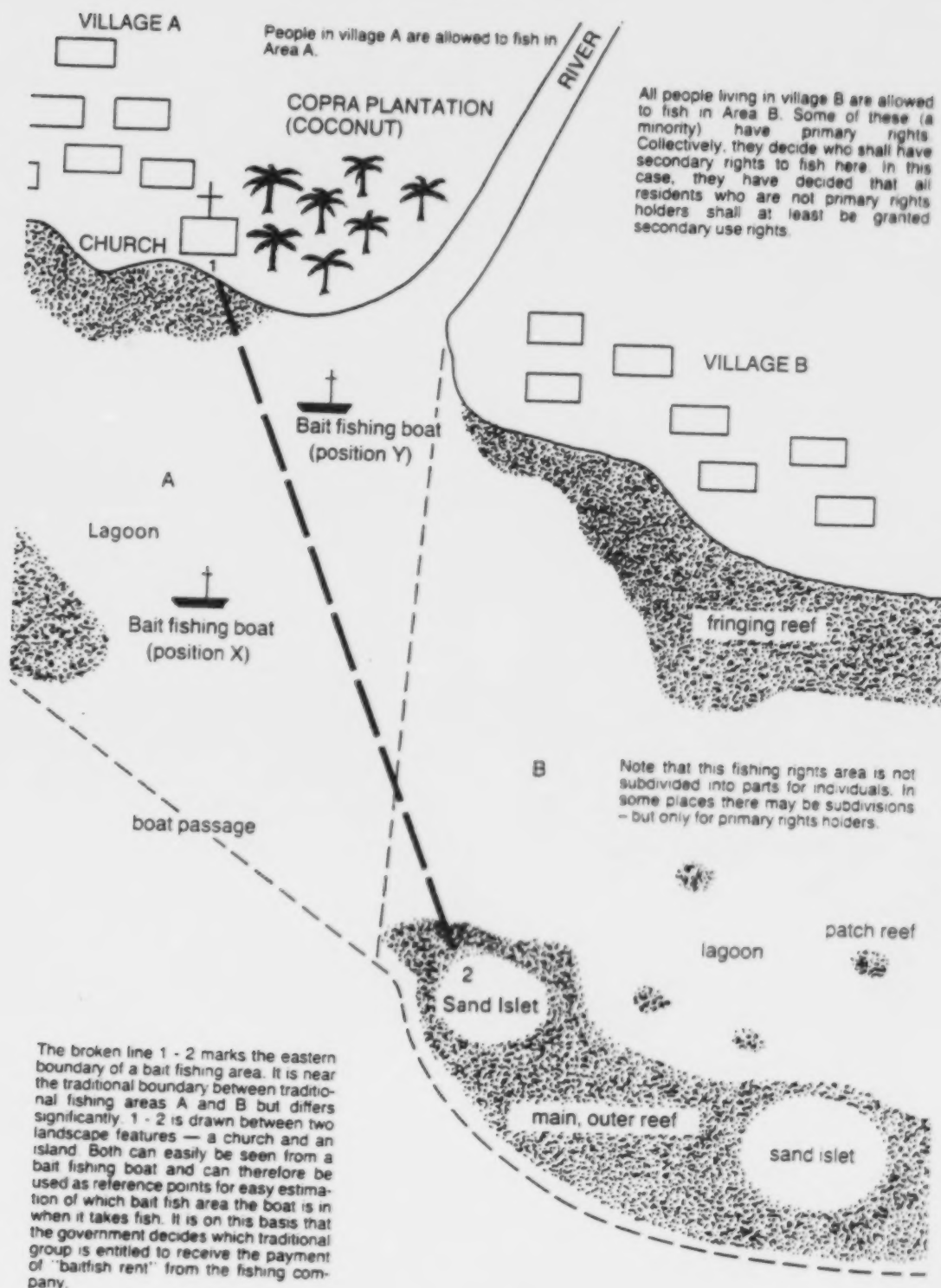
- 7 A frequent criticism villagers raise against baitfishing boats is that they overfish the reefs and lagoons, thereby threatening local fishermen's livelihoods. At the moment, overfishing has not been proved. However, what is beyond dispute is that large quantities of baitfish are wasted — even the fishing companies accept this. Basically, wastage occurs because the companies pay only small baitfish rents to villages and so the baitfish are cheap. Sarah Meltzoff, who has studied in detail the tuna fishing industry in Solomon Islands, believes that the companies should pay higher baitfish rents. Of course, it's very likely the companies would object to any rent increases — after all, it is the fishing company owners and their fishermen who invest time and money in baitfishing.

Using the information in the paragraph above, imagine you are a member of Solomon Islands Fisheries Division. A government decision has been made to make a small increase in baitfish rents and this needs to be announced on national radio. You have been asked to make the radio announcement! Remembering that you need to "do a good PR job" for the Fisheries Division, prepare (in writing) your radio announcement. In the announcement clearly and very briefly explain how the decision will benefit villages. Also give one reason why the government made only a limited rent increase.

Finally read Extract 3 and then answer the following questions.

- 8 Baines identifies several "inadequacies" with the way baitfish areas are marked out. What are they?
- 9 In Graham Baines' view, why should the development of modern inshore fisheries be based on traditional rights?
- 10 Baines proposes some guidelines for the future development of inshore fisheries in Solomon Islands. Working together in small discussion groups, list his guidelines. In your group discuss whether or not his guidelines are: a) desirable b) feasible. Discuss how you think the majority of people at village level would react to Baines' guidelines.

Map showing typical fishing area boundaries





RESOURCE 5

Source: Dawson, L.D. (1992) *How to Interpret Natural and Historical Resources*, WWF Latin and America and Caribbean Program, Washington DC.

Objectives:

Participants will be able to explain why the solutions to many environmental problems lie in the political process and why many environmental problems have no right or wrong answers. They will also be able to list reasons why it is so difficult to identify and implement environmental priorities for communities.

Age Group:

upper primary through adult

Time:

1 to 1 1/2 hours

Setting:

a quiet outdoor area with seating, a classroom, or a meeting room

Materials:

copies of role cards on page 89-91, paper

Background

Many environmental problems stimulate a number of interest groups into action. These groups often have strong interests in issues such as:

- land-use decisions;
- prevention of air, soil, and water pollution;
- methods of cleaning up pollution;
- rights to various natural resources;
- development versus conservation; and
- saving endangered species.

All of these issues can force people into fierce opposition. Basic beliefs about economics, human rights, consumer patterns, and even survival may be at stake. Often short-term goals are in conflict with long-term ones. With all of these conflicts arising, it is no wonder that communities have such a difficult time resolving environmental issues.

Using simulations, such as the one presented in this activity, is an environmental education method that can help participants analyze complicated issues. Having participants act out the roles of different community members often makes them more sensitive to other points of view. Sometimes this new awareness can help promote consensus in resolving a controversial issue.



Procedure

1. Divide the group into seven teams: Indigenous People, Subsistence Farmers, Cattle Ranchers, Research Scientists, Government Officials, Lumber Company Officials, and Coffee Growers. Ask each team to pick an appropriate name for their group and to make a paper label with the team's name on it.

2. Tell the group that Monte Verde Tropical Rain Forest is an imaginary large forest that has been used by people for limited logging and small farms. Now, several groups are proposing that they be allowed to use the forest for large-scale operations such as logging, growing coffee, and raising cattle. Such uses would affect the small farmers and indigenous people who have lived in the forest for a long time. All the different groups are arguing about the so-called "right" way to manage the forest.

The government must decide what to do. Officials have scheduled a public hearing at which all interested parties will present their cases. The teams must prepare arguments or briefs to be presented at the hearing. The Government Officials team will hear all the arguments and then decide what to do.

3. Give each team a copy of its appropriate role card. Each team—except the Government Officials—must prepare a four-minute oral brief that summarizes the team's opinion on how the Monte Verde Tropical Rain Forest should be used over the next twenty years. Each team should try to persuade the Government Officials that its position is correct. Allow ten to fifteen minutes for the groups to prepare for the hearing.

4. The Government Officials should read their role card. Then they should appoint a member to chair the hearing, another to time the testimonies at the hearing, and a third to go around and find out who will be testifying at the hearing. Together, the officials should decide the order of testimonies and prepare an agenda. They may also want to discuss any opinions or feelings they already have on the use of Monte Verde Tropical Rain Forest.

5. The chair should call the hearing to order and go over the agenda. As the speakers present their cases, each Government Official should take notes. Officials may spend one to two minutes to ask a few questions after each brief is presented.

6. When all the teams have been heard from, the Government Officials may debate in private for five minutes. They must come to an agreement on a general land-use plan for the Monte Verde Tropical Rain Forest. (*Note:* They do not have to choose just one land-use plan—they can combine uses or suggest other alternatives.)

7. The chair will then read or present the officials' decision to the group.

8. Lead a group discussion on the solution adopted by the officials. You might discuss:

- other solutions,
- how people felt portraying a role that felt new or strange to them,
- how such decisions are actually made in your locale,
- whether hearing other testimonies made anyone change his or her ideas or feelings on the subject, and
- whether there are any land-use issues in your community. If so, who are the players? Are they equally likely to be heard by decision makers?
Why or why not?

ROLE CARDS/ FOR LAND-USE CONFLICT SIMULATION

Note: Each of these roles will be played by a team of participants. Each person can make up his or her specific role within the team. For instance, the Cattle Ranchers team might be composed of the ranch owner, the ranch manager, ranch hands, and an investor.

CATTLE RANCHERS

You are part of a large cattle company with great amounts of money to invest in a ranch in the Monte Verde Tropical Rain Forest. You know that there is a great demand for beef in foreign countries and that you will not have any trouble selling your cattle for export. The government is selling land in the forest cheaply to promote the development of cash crops for export and to increase colonization efforts. Your company is willing to buy a very large piece of land. You have heard that there is trouble with ranching on forest land: People have settled there without owning the land, there are many diseases that can kill the cattle, and the pasture wears out after only a few years. But you are willing to take the chance. If your ranch succeeds, your company could become one of the largest in the nation. If the ranch fails, or the price of beef in foreign markets decreases rapidly, your company could lose a substantial amount of its investment. You will employ a large work force to clear the land. But after that, only a few seasonal workers will work on your ranch.

INDIGENOUS PEOPLE

You depend on the Monte Verde Tropical Rain Forest for your entire way of life. Your tribe lives in a small village in a remote area of the forest, but you need a large area of forest to hunt, fish, and gather food. You use many plants for food, medicines, and other materials (manioc, Brazil nuts, oil palms, rubber trees), and the fish and other animals of the forest provide you with necessary protein. Your traditions and beliefs are based on your view of the forest as provider. While you depend on the forest and use it freely, your culture does not believe that the land can be owned—you are allowed to use it, but it is not yours. If the forest is destroyed, you will lose not only the basics needed for survival, but also much of your cultural and spiritual heritage.

LUMBER COMPANY OFFICIALS

You work for a large lumber company in your country, and you are responsible for making decisions about where to cut timber in the Monte Verde Tropical Rain Forest. You know that there is a lot of valuable wood in the forest, but it is difficult and expensive to harvest. Your job is to maximize your company's profits by making it as cheap as possible to get the timber from the forest to the buyer. The trees you want to sell grow among others that are not valuable. In each area your company harvests, you must decide whether it is better to do selective cutting, in which you take only the valuable trees, or clear cutting, in which all the trees are cut down. You look for areas that are not too isolated and that have high concentrations of valuable trees so that the money received from timber sales is higher than the cost of building the roads and of harvesting the trees and transporting them. Problems you might encounter in your operations include other groups (Subsistence Farmers or Indigenous People) who may be living on potential harvest areas, heavy rains that make transportation difficult, and conservationists who want to prevent you from using the forest because it is the home of rare animals and plants.

COFFEE GROWERS

Coffee is one of the major exports of your country. There is a great demand for coffee in other countries, and you can make a lot of money by planting large areas of the Monte Verde Tropical Rain Forest with coffee trees. The government is selling land there very cheaply, and you would like to buy a large piece to clear and plant with coffee. Your goal is to make the most amount of money in as little time as possible. You know that the forest soil is not very good for crops, but there is so much forest that you believe you can clear more land if your yields start decreasing. Some of the obstacles to your using the forest might be: people living on the land you want to clear—*campesinos* or indigenous people; opposition from conservationists, because clearing the forest for growing coffee could result in extensive erosion on hillsides or extinction of species due to habitat destruction; and outbreaks of pests or diseases that destroy your crop.

GOVERNMENT OFFICIALS

You are the ones who have to decide what to do with the remaining Monte Verde Tropical Rain Forest areas. You must listen to all the groups that want to use the forest and then tell them what should be done. As a government of the whole nation, you are concerned with the forest's ability to increase your country's wealth, which will help modernize your society. You know that there are many important things the tropical forest can do for development, but you also realize that tropical forests around the world are vanishing and may disappear altogether if this destruction is not stopped.



SUBSISTENCE FARMERS

You moved into the Monte Verde Tropical Rain Forest after a lumber company built a road into the virgin forest to haul out trees. You cleared a small plot of land not far from the road and planted some crops, such as manioc and corn. You depend on your land to grow all the food you need to eat. There is little, if any, extra to sell for cash. You have a spouse and four children, but only one child is old enough to help on the farm. You do not own the land you live on, but, because of your work, you feel it belongs to you. You have also cleared another plot of land nearby because the soil on your present plot is getting worn out. Other farmers have moved into your area, and you are worried that they will take over the new plot of land first. In addition to your worries about being able to grow your crops, a major concern is that cattle ranchers or coffee growers will buy legal title to your land from the government and will make you and your neighbors leave, with nowhere else to go.

RESEARCH SCIENTISTS

The main reason you are interested in the Monte Verde Tropical Rain Forest is its usefulness as a genetic resource, as well as for research. You know that there are probably large numbers of plants and animals that may be useful to people but that have not yet been discovered. You are concerned about all the groups of people using the forest because you know that species are disappearing almost every day due to what you consider unwise management practices. You would like to see much of the tropical forest in your country conserved through the creation of parks and natural areas, but you realize that there are already many people living in these areas. You think the government should plan now to save the remaining forest areas and protect them with strict regulations. You also think that the government should provide more opportunities for scientists to study the forest. You believe that some development of the forest would be acceptable, but should be carefully planned and regulated.

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RESOURCE 6

Source: Huckle, J., (coordinator) (1988) *What We Consume: Unit 8 China*, WWF UK and Bedford College of Higher Education in conjunction with Richmond Publishing Co., UK.

... the post-1949 decades could be, with simplification but far from unjustly, described as an all-out attempt to turn the former astounding imperial capital of the Jin, Yuan, Ming, and Qing dynasties into a large factory compound where there would be . . . plenty of dirty air, polluted water, stupefying noise and hardly a trace of living nature.

Vaclav Smil, 1984

Economic development and environmental protection can go ahead proportionately, in a planned and harmonious way, to promote the progress of the modernization programme. . . We have spent several years legislating for the environment, but enforcement is more difficult and complicated.

Qu Geping and Li Jinchang, 1984

PURPOSE

Pupils are introduced to the nature and causes of pollution in Beijing and to attempts to solve pollution problems by educational, political and technological means. Particular attention is given to the nature and scope of China's Environmental Protection Law and the reasons why environmental pollution remains a serious problem in China.

KEY QUESTIONS	A3, B3-5, C3
KEY IDEA	4

PREPARATION

Before using this activity teachers should read the background notes on China's Environmental Protection Law and prepare multiple copies of Activity Sheets 8.4.1, 8.4.2 and 8.4.3.

PROCEDURE

- 1 The teacher introduces Activity Sheet 8.4.1 by telling the pupils about environmental pollution in Beijing. Relevant information can be found on the Activity Sheet and in

sections 6.2.1, 4.1.1, 3.5.2 and 2.5.1 of Vaclav Smil's *The Bad Earth* (see page 14).

- 2 Next, the teacher reads through the Activity Sheets with the pupils and divides them into small groups to carry out the tasks. S/he should break for discussion at three stages: after pupils have matched laws and problems and suggested reasons for continuing pollution (8.4.1); after they have proposed three different types of solution to one problem (8.4.2), and finally, to compare their completed tables (8.4.3).

Pupils should be encouraged to ask for help with comprehension and carrying out the tasks. The completed table will look something like this:

	AIR	WATER	NOISE	DISEASE
EDUCATIONAL SOLUTION	3		3	4
POLITICAL SOLUTION	7	6,2	1,9	4,8
TECHNOLOGICAL SOLUTION	5	6,2	9	8

- 3 Follow-up work to the Activity Sheets could include a discussion of China's Environmental Protection Law:

On what principles is the law based?
How does it seek to protect the environment?
What penalties are there for breaking the law?
How is environmental protection organised in China?
What is the role of research and propaganda in environmental protection?

The teacher should emphasise the gap between intentions and reality and the difficulties of closing this gap in a developing country with limited resources.



BACKGROUND

Environmental pollution in Beijing

As the news cutting on page 55 suggests, Beijing experiences severe problems of air, water and noise pollution. The city's built-up area increased threefold between 1949 and 1979 and in that time it became a major centre for heavy industry. Spending on infrastructure such as reservoirs, sewers and water treatment plants has not kept pace with this growth and the resulting pollution problems are made worse by Beijing's natural location. Its arid climate accentuates problems of water scarcity and quality. Calm atmospheric conditions with temperature inversions often concentrate air pollution.

Environmental Protection in China

Between 1949 and the early 1970s environmental management in China was piecemeal and the quality of the environment was not considered a major issue. Chinese delegates to the Stockholm Conference in 1972 stressed the need for development with environmental protection and the State Council established an Office of Environmental Protection in 1974.

Environmental protection was written into the constitution of the People's Republic of China in 1978, a Law of Environmental Protection adopted in 1979 and a Ministry of Urban and Rural Construction and Environmental Protection established in 1982. This Ministry co-ordinates and supervises the state's environmental protection efforts and following a period of legislation its main focus is now law enforcement. Environmental protection was one of the ten major tasks of the Sixth Five-Year Plan (1981-1985).

Environmental protection in China follows the following guidelines:

- a) **Overall planning and rational distribution while developing industrial and agricultural production.** Chinese planning seeks to balance relations between industry and agriculture, cities and rural areas, economic development and environmental protection and maintenance of the ecosystem. The environment should be protected and improved in the course of economic development.
- b) **Comprehensive utilization and conversion of harm to good.** The rational use of resources and energy requires multiple use and the recycling of waste.

- c) **Relying on the masses and mobilizing everyone's effort.** Awakening and educating people to take initiatives in maintaining their living environment and protecting the natural environment.

- d) **In the final analysis, to protect the environment is to protect the health of the people and to develop the productivity of society.**

These guidelines are implemented via policies which seek a rational distribution of industrial centres and cities and the control of pollution. The Chinese believe that it is easier to manage the environment in small and medium-sized cities which are integrated with rural areas and where industry is combined with agriculture. They seek to control the size of large cities such as Beijing and encourage dispersal via satellite towns. The varied methods used to control pollution include new technology, stronger environmental management, relocation, fines and punishments, and environmental impact assessment for new, expanded or renovated projects. China's Environmental Protection Law (see Qu Geping & Lee, 1984) embodies these principles and policies and is intended to shape economic development so that it conforms to "natural and economic laws".

Environmental protection is seen as part of national economic planning and development. In theory, environmental protection departments participate in setting targets and norms for regions and enterprises and supervise the execution of yearly plans. Environmental criteria are used in assessing managerial and worker efficiency and determining material rewards. Environmental management seeks to guide the process of material exchange with nature towards a benign cycle, and for this reason multiple use and recycling are stressed. Awards, tax exemptions and fines are used to encourage this type of management.

In addition to principles and policies, the Law sets out a framework of environmental management organisations together with their functions and powers. Chinese commentators admit that enforcement is more difficult than legislation. There is a need to strengthen legal and environmental education and to create monitoring, supervisory, inspection and law enforcement agencies.

At the top of the environmental protection pyramid in China is the Ministry of Urban and Rural Construction and Environmental Protection, although there are environmental protection departments within other



ministries such as power and forestry. Lower down the pyramid are the environmental protection bureaux of provinces, regions and municipalities and the environmental protection institutions in most prefectures, cities, counties and enterprises. These are responsible for enacting local laws on environmental management which implement the state law and collecting their own funds for environmental protection.

The chapter in the Environmental Protection Law on pollution lists nine kinds of pollutants to be dealt with (waste gas, waste water, solid waste, dust, garbage, radioactive material, noise, vibration and odours). Educational, economic, political and technological solutions are all employed and fines are fixed at a high level to encourage early environmental management and provide more funds for environmental protection. In serious cases managers will be disciplined by an economic court.

The Chinese make much use of propaganda and education to raise awareness of environmental problems and related solutions. The media are used to stress the need for environmental protection and trade unions, scientific associations, the youth league, women's federations and other mass organisations may be mobilized to engage in environmental campaigns (see Activities 8.9 and 8.10). Neighbourhood committees in Beijing may have supervisory groups for environmental protection and many initiatives on the environment start at the local level (see Activity 8.5).

The nine solutions to pollution outlined on the Activity Sheet are based on press releases from the Xinhua Agency during 1984/5.

Link with UK Conservation Strategy

The Livable City report deals with urban air and water pollution. The report calls for greater controls on vehicle exhausts and after EC pressure there has been some progress on the introduction of lead-free petrol. It also seeks better sewage treatment, greater controls on discharges to rivers and faster progress in improving river quality in urban areas. The future of these recommendations will be much affected by the likely privatisation of the water supply industry. *Seven Bridges to the Future*, another of the reports in UKCS, recognizes pollution control as a potential sunrise industry with great potential to revive the economy, to win export orders and to create jobs.

READING

Managing the Environment in China, Qu Geping and Woyen Lee, Tycooly International, 1984.

"China's Struggle to Safeguard Her Environment", Qu Geping, *China Reconstructs*, April 1986.

"The Origins of Environmental Management in China", Wu Zijin, in: *Learning from China? Development and Environment in Third World Countries*, Bernhard Glaeser (ed), Allen & Unwin, 1987.

"Urban Environmental Protection Well Under Way", Qu Geping, *Beijing Review*, 12.1.87.

"China's Industrial Pollution Survey", Qu Geping, *China Reconstructs*, August 1988.

ACTIVITY SHEET 8.4.1

POLLUTION AND THE LAW

In this set of activities you will find out about pollution in Beijing; examine some of the laws which are meant to control pollution, and suggest solutions to some of the pollution problems. You will then compare your suggestions with some of the solutions actually used in the city in the mid 1980s.

First you need to know about FOUR POLLUTION PROBLEMS in Beijing:

AIR POLLUTION

Beijing is a large city with a lot of heavy industry such as iron and steel works. Most of the factories and houses get their energy by burning unwashed coal. The boilers, furnaces and stoves they use are often old and inefficient. Much of the energy in the coal is wasted and large amounts of soot, sulphur dioxide and dust escape from low chimneys into the air. Weather conditions in winter often produce cold still air. The pollution is then concentrated in fogs which are unhealthy and prevent sunlight from reaching the ground.

WATER POLLUTION

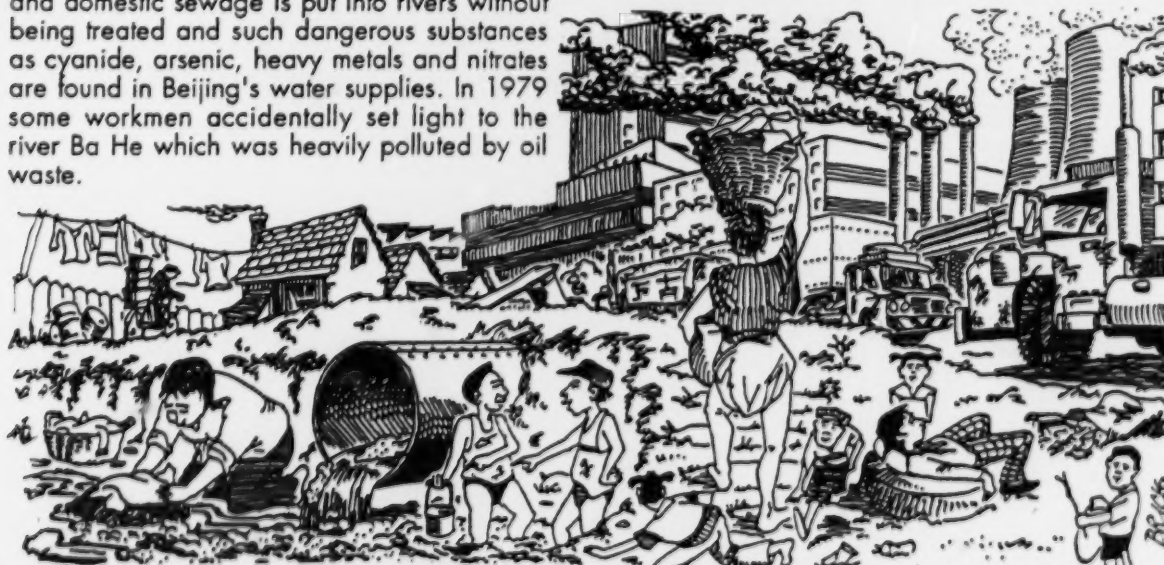
Beijing is in an area of low rainfall and suffers from drought every five to seven years. Although water is scarce, it is not used in the best way. A lot of liquid waste from factories and domestic sewage is put into rivers without being treated and such dangerous substances as cyanide, arsenic, heavy metals and nitrates are found in Beijing's water supplies. In 1979 some workmen accidentally set light to the river Ba He which was heavily polluted by oil waste.

NOISE POLLUTION

Some visitors describe Beijing as the noisiest city in the world. Roads are very crowded and there is a constant sounding of horns by taxis, buses, cars and trucks. Poorly tuned engines, broken silencers and blaring transistor radios add to the street noise. Noisy factories can be found in the same street as houses.

OCCUPATIONAL DISEASE

Of the 1,700,000 workers employed in 7,500 factories in Beijing in 1984, more than 370,000 were exposed to such harmful substances as lead, asbestos and mercury, in their workplaces. The number of cases of cancer and of lung and heart disease amongst workers increased in the 1970s. Between 1974 and 1978 the number of cases of lung cancer in Beijing increased by 30%.



Although China adopted an ENVIRONMENTAL PROTECTION LAW in 1979, these pollution problems have not been yet been solved.



ACTIVITY SHEET 8.4.1 CONTINUED

Can you match the following FOUR ARTICLES from the Environmental Protection Law to the four problems you have just read about. Write the name of the problem in the box under the article.

ARTICLE 2

The function of the Environmental Protection Law of the People's Republic of China is to ensure, during the construction of a modernized socialist state, rational use of natural environment, prevention and elimination of environmental pollution and damage to ecosystems, in order to create a clean and favourable living and working environment, protect the health of the people and promote economic development.

ARTICLE 20

Dumping garbage and waste residues into the waters is prohibited.

Discharge of sewage shall be in compliance with the standards set by the State.

Take strong measures to protect the sources of drinking water from contamination and gradually perfect the sewage discharge piping system and sewage purification facilities.

ARTICLE 19

All smoke discharge devices, industrial furnaces, motor vehicles, ships etc, shall take effective measures to eliminate smoke and dust, and discharge of noxious gas shall be in compliance with the standards laid down by the State.

Develop and use on a big scale coal gas, liquefied petroleum gas (LPG), natural gas, marsh gas, solar energy, terrestrial heat and other non-polluting or less polluting energy sources. In the cities, district central heating should be promoted.

ARTICLE 22

Step up control of noise and vibration in urban and industrial districts. All kinds of noisy machines, motor vehicles, aircraft etc. with heavy vibrations are required to install noise suppressors and anti-vibration devices.

The full Environmental Protection Law contains 33 articles. Some of the articles not printed here also deal with air, water, noise and occupational disease.

Before you go on to the next activity, can you think of some reasons why there were still pollution problems in Beijing five to ten years after the Environmental Protection Law was passed?

Make a note of the reasons you suggest. . . .

ACTIVITY SHEET 8.4.2

SOLUTIONS FOR POLLUTION

Now compare your ideas about why pollution problems continue with the reasons suggested by Qu Geping, director of China's State Environmental Protection Board in 1987:

- * inadequate EDUCATION about environmental protection. (People do not know about the need to stop pollution and how to go about it)
- * inadequate ENVIRONMENTAL PROTECTION ORGANIZATIONS and a LACK OF TRAINED PROFESSIONALS in the field. (There are not the organizations and people to enforce the law.)
- * Cadres (officials), especially at the grass-roots level, who CONCENTRATE ON PRODUCTION BUT NEGLECT ENVIRONMENTAL CONCERNS. (Such people as factory managers do not show enough concern about pollution.)
- * A lack of attention to environmental protection when local governments and economic departments DRAW UP PLANS AND ALLOCATE FUNDS and begin construction and renovation projects. (Planners are not concerned enough about pollution.)
- * As a developing country, China's economic and technological level remains low, and the state LACKS FUNDS AND EQUIPMENT for environmental protection. (China does not have enough money, or the right technology to solve all its pollution problems in a short time.)

Qu Geping suggests that Beijing's pollution problems could be reduced by:

EDUCATIONAL SOLUTIONS which make people more aware of pollution problems and encourage them to clean their environment.

POLITICAL SOLUTIONS which introduce laws on pollution. Politicians can also encourage people to obey the laws by punishing polluters and rewarding those who cut down pollution.

TECHNOLOGICAL SOLUTIONS which involve cleaner ways of using energy and materials and create less waste.

Now choose ONE of the four pollution problems in Beijing: air, water, noise or occupational disease. Suggest one educational, one political and one technological solution to the pollution problem you have chosen.

TYPE OF POLLUTION:

My educational solution is:

My political solution is:

My technological solution is:



RESOURCE 7

Source: Desertification, in *Only One Earth*, Multi-media Education Pack (1989), WWF UK, Godalming.



Desertification around Abo

EXTRACT 1

In the mid-1970s, Rendille land was invaded by teams of scientists of various colours, nationalities and disciplines. These anthropologists, rangeland experts, soil scientists, hydrologists and meteorologists were known collectively as 'IPAL' — the Integrated Project in Arid Lands. IPAL had been set up by UNESCO, UNEP and the Kenyan government in order to find ways of improving the lot of the nomadic tribes of northern Kenya. (The IPAL project also covers the lands to the north, south and west of the Rendille, which belong to Gabra, Samburu and Turkana nomadic pastoralist tribes. It encompasses more than 8500 square miles, an area twice the size of the island of Jamaica.)

There are many reasons for the failure of aid projects which are designed to 'develop' traditional cultures: some have even done more harm than good. All too often they break down because they are dreamed up in places such as London and Washington and then applied in the developing world by foreign

teams with little idea of the life-styles of the people to be helped. Development consultants, who are based in European and North American capitals but work in the Third World on two- to three-year contracts, may have big budgets, but they have little time. They can rarely take years to study the peculiarities of the local people, their ambitions, their skills, their own ways of coping. Often there is only enough time to begin the building of a dam or an irrigation system, or the introduction of a new crop. But 'improvements' which may have worked well enough in the drylands of California, Australia or Israel do not necessarily succeed elsewhere.

The IPAL experts tried to avoid this classic error by taking their time. Rather than immediately recommending new techniques and building new things, they spent time studying the region closely. They decided early on that the most important variable in the region was not the rainfall, water tables or the soil, but the people.

Source: *Only One Earth*, L. Timberlake BBC Earthscan

QUESTIONS AND ACTIVITIES

1. Read Extract 1. Lloyd Timberlake says that many aid projects fail. What reasons does he give for their failure?
2. How has IPAL tried to avoid these failures?

EXTRACT 2

Dr Walter Lusigi, a Kenyan range ecologist and former project manager of IPAL, places humans firmly at the centre of the desertification problem, maintaining: 'Man can justifiably be regarded as the dominant

element in the grazing land ecosystems by virtue of his overwhelming impact upon them, exerted largely through his domestic animals . . .

EXTRACT 3

'This area we are standing in now is a man-made desert,' said Dr Lusigi, looking out over the landscape around Korr. 'What has happened here is the result of introducing permanent water in a place where there should not have been permanent water at all. The

people have been in here with their livestock and have overgrazed the area completely. They have cut down the trees. After the trees are gone, then the rain comes and strips the ground and the wind takes up the soil. That is the phenomenon we call desertification.'

Source: *Only One Earth*, L. Timberlake BBC Earth

3. Read Extracts 2 and 3. What does Dr Lusigi mean by his statement in Extract 2?
4. In Extract 3 Dr Lusigi has identified the reasons for desertification occurring around Korr. What are they?

EXTRACT 4

IPAL not only 'integrated' its research, but integrated its prescriptions for saving the environment — many of which appear at first glance to have nothing whatsoever to do with the environment. One of the first things that the scientists realised was that they should avoid sentimentalising nomadism. Many Rendille were clearly anxious to settle. Trying to induce them all to return to the nomadic ways of life would have been a 'romantic notion', said Dr Lusigi. The goal is not so much to encourage all of the people to move again as to get their animals moving, giving over-used grasslands time to recover. But this does mean mobilising a reasonable number of herders in order to accompany the herds, and such mobility requires at least three things.

First, it must be physically possible. There must be enough wells scattered around the plains to enable the herds to move across those plains without dying of thirst. Thus, many small wells are being dug. If the herds are mostly camels, rather than sheep and goats, they can cover more ground with less water. Camels are also less destructive to the soil and the vegetation. Scientists have therefore been encouraging the Rendille to return to their traditional camel-based herding.

Second, nomadism must be made less of a hardship than it is at present. UNESCO workers are trying to establish 'mobile shops' on the backs of the camels of *morani*, so that consumer goods such as sugar, tea, flour, tobacco and radio batteries can be taken out to the *fora* camps. These same camels bring into Korr the milk and firewood necessary to the family members who have been left behind, especially the children.

Third, the Rendille must believe that by herding they can realise their ambitions, whether these be the purchase of a pair of jeans or the longer-term hope of sending all their children to school. The Rendille will not revert to a nomadic way of life just because a UN agency tells them to: it is essential that they see it as a

better option than depending on food handouts in town, or chasing the few jobs available in Nairobi. For this reason UNESCO has gone into the livestock herding business itself. It has also organised the Pastoralists' Association, one of which D'igur Turoga heads.

In the past the Rendille did not need to sell livestock because they had little use for money. Now, however, there are the shops in towns such as Korr, as well as the new mobile shops. School fees come to the equivalent of £50 (\$75) per year, with the added expense of uniforms and materials — this is a country in which the average annual income equals only a few hundred pounds. When the herders first began selling their stock, they were cheated by 'middle men': traders who took advantage of the herders' commercial *naivete* by buying cheaply in the drylands and then selling at higher prices in the animal markets of Nairobi. UNESCO has organised a monthly auction where it buys animals for sale in Nairobi. Each month a few members of the Pastoralists' Association take the livestock lorry to the capital, so that the herders can see how the Nairobi markets work. In doing this they are adding the skills of modern commercial dealing to their traditional herding and drylands survival skills.

Matters are helped by the fact that the main buying agent in Nairobi is a Rendille, also a member of the Association. But the Association is more than a club for the sale of livestock. In the old days, when each clan was gathered in a *manyatta*, there was a council of elders which met every morning to decide on the herding strategies of the day and of the days to come. As the *manyattas* were abandoned for the towns, this forum for exchanging information and passing on traditional knowledge vanished. The Association revives the practice, allowing for new learning in the process.

'It brings the pastoralists together,' said D'igur. 'And also it's good because there are new ideas which were not known before, especially where these animals are sold and where they are taken.'

Source: *Only One Earth*, L. Timberlake BBC Earth

5. Read Extract 4. Why did Lusigi think it a 'romantic notion' to try to induce the Rendille to return to the nomadic ways of life?
6. In the film, Dr Lusigi said that the animals — but not necessarily the people — of the Rendille must be encouraged to go on the move again to prevent the spread of further desertification around Korr. Name three factors which IPAL has identified which may encourage the Rendille to get their livestock on the move again.
7. What does the Pastoralist Association do?

EXTRACT 5

The 'Resource Management Plan' which IPAL initiated and which the Kenyan government and its Arid Lands Research Station have taken over is ambitious. It calls for the digging of 400 wells, one every ten square miles in the Rendille area alone. The cost of this would be about £800,000 (\$1.2 million).

A start has been made, and in the process the contrasting methods of the traditional and the modern experts have been highlighted. D'igr Turoga travelled into the bush with a Californian hydrologist who took with him an expensive electronic seismograph. By using his eyes and studying the lie of the land and the vegetation, Turoga gave the verdict either, 'Here lies water' or 'No water here'. The hydrologist plugged his seismograph into the soil while his assistant banged a metal plate some yards away. As the reverberations through the ground were registered, he was able to take readings from the wave patterns on the device's oscilloscope. In every case the expert agreed with D'igr's eyeball assessment.

If the land is to be used efficiently, the Kenyan government will also have to take firmer measures against the banditry and inter-tribal raiding which still plague the region and put valuable grasslands out of use. Livestock raiding was traditionally a rite of passage for the young warriors. There were relatively few casualties in the days of spears, clubs and shields; wounds attracted the attention of young women and were something to boast about by the camp fire. With

the advent of automatic weapons, a skirmish today can leave many dead. The situation is complicated by the fact that raiders may come from Ethiopia to the north and from Somalia to the east.

There are plans to bring in bamboo from around Mount Kenya to the south so that fencing can be provided without the herders having to cut down trees to make corrals. Hilltops to the east and west of the Rendille flatlands must be reforested to protect watersheds and to keep rains from becoming destructive floods. Co-operative livestock management systems dividing up rangelands among herders must be set up and enforced by local range-management officers, who must be hired and trained. Dr Lusigi wants to see savings and loan banks in the district, and training provided so that the Rendille are able to learn how to manage money as well as camels.

These measures may seem to involve a great deal of trouble and expense just to keep a relatively small number of people gainfully employed in a hostile landscape. But the Kenyan government has strong motives for wishing to carry out the work. Kenya consumes and exports more meat than most African nations, and well over half of that meat comes from the drylands. Ultimately, the success of IPAL and similar efforts made by dryland pastoralists may be crucial to human welfare and financial security throughout the African continent.

Source: *Only One Earth*, L. Timmerlake, BBC Earthscan

8. Read Extract 5. What does IPAL's Resource Management Plan suggest is the most effective way to halt desertification and improve the Rendille's way of life. To what extent do IPAL's and the Kenyan government's plans follow the eight guidelines mentioned in Activity Sheet 6? Do you think the IPAL/Kenyan government initiative in Rendille territory is likely to succeed?

INTRODUCING ALTERNATIVE FUTURES

DAVID HICKS
GLOBAL FUTURES PROJECT

INTRODUCTION

This workshop introduces participants to the notion of alternative futures and encourages them to explore their own expectations and aspirations for the future, both in relation to Australia and the wider world.

OUTCOMES

During this workshop, participants will:

- recognise the importance of a futures perspective for all work relating to environmental and development issues;
- understand key concepts in futures study and futures education;
- reflect on their own views on preferred and probable futures; and
- apply the ideas from the workshop to a particular curricular topic.

WORKSHOP OUTLINE

1. Introduction: Some Trends for the Future

An activity asking participants to agree on a diamond ranking of the significance of a selection of trends for the future.

2. Mini-briefing

The concepts of preferred and probable futures is explored through either a mini-lecture or group discussion.

3. Global Timelines

Participants draw their own probable and preferable timelines in an Australian context.

4. Futures Thinking

In small groups, participants apply a futures perspective to a particular issue or curriculum area.



MATERIALS REQUIRED: A) PROVIDED:

RESOURCES:

Resource 1: Some Trends for the Future

Resource 2: Educational Rationale

Resource 3: Futures Thinking: Some Examples

READING

Reading 1: On Alternative Futures

B) TO OBTAIN

Activity 3: A sheet of A3 paper for each participant, coloured pens.

ADDITIONAL READING

- Gough, N. (1990) Futures in Australian education: Tacit, token and taken for granted, *Futures*, 22 (3).
- Hicks, D. (1991) Preparing for the millennium: Reflections on the need for futures education, *Futures*, 23 (6).
- Marien, M. and Jennings, L. (1987) *What I Have Learned: Thinking About the Future Then and Now*, Greenwood Press, New York.
- Slaughter, R. (1991) *Futures Concepts and Powerful Ideas*, Futures Study Centre, (62 Disraeli Street, Kew, Vic. 3101).
- Tough, A. (1992) *Critical Questions About the Future*, University Press of America, New York.
- Wagar, W. (1992) *The Next Three Futures: Paradigms of Things to Come*, Adamantine Press, London.

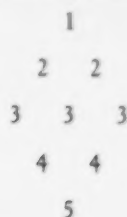


ACTIVITIES

1. TRENDS FOR THE FUTURE

For this activity each pair of participants will need a set of the nine statements on "Some trends for the future" (Resource 1) cut up into slips. At the end of the activity each participant can be given a copy of the complete sheet.

- Participants sit in pairs with a space between them on which to work. Each pair is given a set of "Some trends for the future" (Resource 1) cut up into a series of nine slips. The task is for each pair to agree on a diamond ranking of these slips in response to the question: "Which of these trends will have the most significant impact on the future?"



- Since partners have to agree on their ranking they will need to discuss both their response to the trends and their criteria for defining "significant". No further guidance need be given since one purpose of this introductory activity is to encourage participants to formulate their own responses to the material.
- After 20 minutes one person from each pair reports briefly to the whole group on their "top 3" trends. Why did they select these three? What is so important about them? What evidence do they have for these trends? What has been left out? What sense of the future does the group seem to have?

2. MINI-LECTURE OR GROUP DISCUSSION

- Reading 1, "On Alternative Futures" should be used as the basis for a mini-lecture or, alternatively, the document can be used for individual reading and subsequent group discussion.
- Resources 2 and 3 are summaries of key points from Reading 1 and may be used to support the presentation.

3. GLOBAL TIMELINES

- Participants work in pairs to draw their own probable and preferable timelines under the heading "Australia in the world, the world in Australia". The basic format for this is as below.



BEST COPY AVAILABLE

- The heading is intended to remind participants that Australia has both many links out to the rest of the world and also that the rest of the world is present *within* Australia in a multiplicity of ways. On the left-hand side of the timeline important post-war events and trends should be indicated in as graphic and eye-catching way as possible.
- Participants then mark on their probable timeline, also in an eye-catching way, the events and trends that they *expect* to occur within the next hundred years.
- Finally participants mark on the preferable timeline the events and trends that they would *like* to come about within the next hundred years.
- Completed timelines can be displayed and the whole group given time to study these.
- Depending on the size of the group all or some pairs then make brief reports on their probable and preferable futures.
- Whole group discussion should then focus on questions such as:
 - What are the main similarities/differences on probable futures?
 - What are the main similarities/differences on preferable futures?
 - What are the main differences between the two?
 - How may the probable futures affect participants' personal lives?
 - What action is needed to bring their preferable futures about?
 - What organisations are already working towards such futures?
 - How might such timelines vary depending on age, gender, class and ethnicity?

4. CURRICULUM APPLICATION

- Participants work in small groups of 5 or 6. Each participant has a copy of "Futures Thinking: Some Examples" (Resource 3) which highlights some of the main elements of a futures perspective. The groups then select examples of futures thinking to apply to either a particular issue or a specific curriculum area. Allow 30 minutes.
- Debriefing: How does each example of futures thinking enhance the study of that issue or the particular curriculum area in question? A spokesperson should report back briefly from each group. Whole group discussion should then focus on the question "Why is a futures emphasis essential in the curriculum?"

RESOURCE 1

SOME TRENDS FOR THE FUTURE

Cultural diversity

Whilst we are now all part of one global system, it is ethnic, cultural and historical differences amongst peoples that will increasingly influence national and global affairs in the future.

The Pacific rim

The centre of world trade is now shifting from the Atlantic to the Pacific rim. Asian countries bordering the Pacific will become more important as they undergo the fastest period of economic expansion in history.

Women in leadership

Women are now increasingly taking up leadership roles in business, especially in the U.S. This trend is likely to spread and will have a significant impact on the way in which business is organised in the future.

Biotechnology

The new scientific frontier of genetic engineering is about to transform our lives whether we like it or not. This includes both the creation of new plant and animal breeds as well as alteration of human genes.

Religious revival

There are now clear signs of a worldwide religious and spiritual revival, ranging from the growth of fundamentalist and evangelical groups to the spread of New Age beliefs and a renaissance of more ancient traditions.

Environmental concern

Due to issues such as global warming and ozone depletion there is now an upsurge of popular interest in environmental issues. Increasingly people are aware of the need to preserve and nurture the planet itself.

Wealth and poverty

The nature of the world economic system is such that the gap between the countries of the rich North and the poor South will continue to increase. This growing division will create serious future problems.

Changing worldviews

In the West there is now a major value shift away from a predominantly scientific and mechanistic view of the world to a more holistic and ecological one. This can now be seen in many fields of enquiry.

Trend X

One of the most important trends in the last decade of the twentieth century which will have a major impact on the future is (write own)



RESOURCE 2

EDUCATIONAL RATIONALE FOR FUTURES EDUCATION

1. Pupil motivation

Pupil expectation about the future can affect behaviour in the present, e.g. that something is, or is not, worth working for. Alternatively, clear images of desired personal goals can help stimulate motivation and achievement.

2. Anticipating change

Anticipatory skills and flexibility of mind are important in times of rapid change. Such skills enable pupils to deal more effectively with uncertainty and to be pro-active rather than reactive to change.

3. Critical thinking

In weighing up information, considering trends and imagining alternatives, pupils will need to exercise reflective and critical thinking. This is often triggered by realising the contradictions between how the world is now and how one would like it to be.

4. Clarifying values

All images of the future are underpinned by differing value assumptions about human nature and society. In a democratic society pupils need to be able to begin to identify such value judgements before they can make appropriate choices between alternatives themselves.

5. Decision making

Becoming more aware of trends and events which are likely to influence one's own future and investigating the possible consequences of one's actions on others in the future, leads to much more thoughtful decision making in the present.

6. Creative imagination

One faculty that can contribute to, and which is particularly enhanced by, designing alternative futures is that of the creative imagination. Both this and critical thinking are needed to envision a range of preferable futures from the personal to the global.

7. A better world

It is important in a democratic society that young people develop their sense of vision particularly in relation to more just and sustainable futures. Such forward thinking is an essential ingredient in both the preserving and improving of society.

8. Responsible citizenship

Critical participation in democratic life leads to the development of political skills and thus more active and responsible citizenship. Future generations are then more likely to benefit, rather than lose, from decisions made today.

9. Stewardship

Understanding the short and long-term consequences of current local and global trends, as well as the action needed to change these, can lead to a sense of stewardship both for the planet now and for those yet to come.

RESOURCE 3

FUTURES THINKING: SOME EXAMPLES

1. State of the planet

In the last decade of the 20th century the state of the planet continues to give serious cause for concern. Issues to do with the environment, development, conflict and human rights, have a major impact both locally and globally. Participants need to know about the causes of global problems, their likely impact on the future and the action needed to help resolve them.

2. Managing change

In periods of rapid social and technological change the past cannot provide an accurate guide to the future. Anticipation and adaptability, foresight and flexibility, innovation and intuition, become increasingly essential tools for survival. Participants need to develop such skills in order to become more adaptable and pro-active towards change.

3. Hopes and fears

Hopes and fears for the future often influence decision making in the present. Fears can lead to the avoidance of problems rather than their resolution. Clarifying hopes for the future often enhances motivation in the present and thus positive action for change. Participants need to explore their own hopes and fears for the future and learn to work creatively with them.

4. Views of the future

People's views of the future may vary greatly depending, for example, on status, age, gender and culture, as well as their attitudes to change, to the environment and technology. Participants need to be aware of how views of the future thus differ and the ways in which this affects people's priorities in the present.

5. Alternative futures

At any point in time a range of different futures is possible. It is useful to distinguish between probable futures, those which seem *likely* to come about, and preferable futures, those we feel *should* come about. Participants need to explore and debate a range of probable and preferable futures, from the personal to the global.

6. Past/present/future

Interdependence exists across both space and time. Past, present and future are inextricably connected. We are directly linked back in time by the oldest members of the community and forward nearly a century by those born today. Participants need to explore these links and to gain a sense of both continuity and change as well as of responsibility for the future.

7. Visions for the future

The transition from one century to another, and particularly from one millennium to another, is often seen as a turning point for society. What needs to be left behind and what taken forward? Visions of a better future can help to motivate active and responsible citizenship in the present. Participants therefore need to develop their own skills of envisioning and their use of creative imagination.

8. Future generations

Economists, philosophers and international lawyers increasingly recognise the rights of future generations. It has been suggested that no generation should inherit less human and natural wealth than the one that preceded it. Participants need to discuss the rights of future generations and what the responsibility to uphold them may involve.

9. Sustainable futures

Current consumerist lifestyles on this planet are increasingly seen as unsustainable often causing more damage than benefit. Sustainable development, on the other hand, prioritizes concern for the environment, the poorest members of the community, and the needs of future generations. Participants need to understand how this applies to their everyday lives both personally and professionally.

READING 1

ON ALTERNATIVE FUTURES

Source: Hicks, D. (1991) *Exploring Alternative Futures: A Teacher's Interim Guide*, Global Futures Project, University of London.

Education For The Future

The 21st century will be very different from today and yet study of the future is a neglected issue in education. Young people are concerned about global issues but also often feel unprepared for what the future might bring. If all education is for the future then the future needs to become a more explicit element at all levels of education. Most of what goes on in education draws on the past, is enacted in the present, but is intended for some future use.

In a world where change seems increasingly rapid, whether at local, national or global scales, it is important to ask questions about the future. Where are we going and where do we want to go? What are my hopes and dreams for the future, for myself, for others and for the planet? What can we do together now in order to help create a more just and sustainable future?

Reasons for looking more explicitly at different futures in the classroom include:

1. Pupil motivation

Pupil expectation about the future can affect behaviour in the present, e.g. that something is, or is not, worth working for. Alternatively, clear images of desirable personal goals can help stimulate motivation and achievement.

2. Anticipating change

Anticipatory skills and flexibility of mind are important in times of rapid change. Such skills enable pupils to deal more effectively with uncertainty and to be proactive rather than re-active to change.

3. Critical thinking

In weighing up information, considering trends and imagining alternatives, pupils will need to exercise reflective and critical thinking. This is often triggered by realising the contradictions between how the world is now and how one would like it to be.

4. Clarifying values

All images of the future are underpinned by differing value assumptions about human nature and society. In a democratic society pupils need to be able to begin to identify such value judgements before they can make appropriate choices between alternatives themselves.

5. Decision making

Becoming more aware of trends and events which are likely to influence one's own future and investigating the possible consequences of one's actions on others in the future, leads to much more thoughtful decision making in the present.

6. Creative imagination

One faculty that can contribute to, and which is particularly enhanced by, designing alternative futures is that of the creative imagination. Both this and critical thinking are needed to envision a range of preferable futures from the personal to the global.

7. A better world

It is important in a democratic society that young people develop their sense of vision particularly in relation to more just and sustainable futures. Such forward thinking is an essential ingredient in both the preserving and improving of society.

8. Responsible citizenship

Critical participation in democratic life leads to the development of political skills and thus more active and responsible citizenship. Future generations are then more likely to benefit, rather than lose, from decisions made today.

9. Stewardship

Understanding the short and long-term consequences of current local and global trends, as well as the action needed to change these, can lead to a sense of stewardship both for the planet now and for those yet to come.

Experiencing The Future

The future is an essential ingredient of daily life and integral to all human experience. Virtually every activity we engage in presumes some future continuation in time. Whenever we have aims, ambitions, make plans or take precautions, speculate or make commitments, we are concerned with the future. Without some sense of the future we could not even begin to articulate our hopes and dreams, let alone realise them. The future is an essential and constant ingredient in all human endeavour.

Within society different groups will have quite different aspirations for the future. This may depend, for example, on political allegiance, income, gender, age, or ethnic group. Many of the futures espoused will be incompatible with others, thus groups compete for allegiance to their view of how things should be. At the same time it is those groups with the most power and influence in society which make their aspirations most visible, for example, governments, business and the media. Any concern for justice and equality, however, requires that the voices of the marginalised also be heard. For those living in the rich North concern for the future is often to do with quality of life. For those living in the poor South concern for the future is often to do with daily survival.

Whilst many decisions about the future may be outside the individual's direct control, the images and expectations that people have of the future often affect what they think is worth doing in the present. Fear of the future can be disempowering but it can also lead to engagement in social and political action to bring a different sort of future about. The resurgence of the peace movement in the early 1980s, and the environmental movement more recently, are cases in point. The images that we have of the future matter because they help determine what we feel is worth working for.

Approaching the end of a century seems to concentrate the mind on the future, even more so the end of a millennium. The dates are, of course, Christian and in that sense the millennium is merely a Western concept. However, it is still a powerful one, combining as it does the end of a decade, the end of a century, the end of a millennium and of two thousand years of Christianity.

Such a date, 2001 not 2000 to be exact, becomes a symbolic threshold and a metaphor for the future itself. A last decade turns into a first, one century into another, the second millennium into the third.

The timescale on which this turning point occurs is lent even more weight by its three-fold nature. Once an event comes to be perceived as some sort of potential turning point it becomes invested with even greater power. People feel presented with an opportunity to search for new beginnings and meanings, to close one door and open another. Is it to be the Apocalypse or a Golden Age?

The millennium presents us with an opportunity to re-examine ourselves, our values and institutions, and how we feel about the world we have inherited. It is likely that a spate of popular books will appear during the 1990s making all sorts of predication about the future. They will be read by our pupils and will need to be studied with a critical eye.

Colonised Futures

Critical to any understanding of alternative futures is the realisation that while, on the one hand, the future is uncertain, on the other many powerful interest groups are busy "colonising" it. There is a parallel with the more familiar process of colonisation of territory. Thus the powerful groups in a society have already colonised the future, i.e. mapped out how the future should be to suit *their* interests. Adults do this frequently to children, white people to black people through institutionalised racism, in patriarchal society men dictate the future of women. In particular consumer capitalism, with its constant quest for new markets and materials, colonises our minds and our futures. Business and advertising constantly create new needs that we did not know we had. Multinational corporations which control world trade, whether in oil, food or fashion, have planned the future well in advance. They will be there waiting for us, having manipulated our desires and invaded our dreams, to give us what we "need" next.

Decisions made by similar powerful groups in the past now affect the present, whether the invention of the internal combustion engine, CFCs or nuclear weapons. In particular politicians and scientists have made decisions on our behalf in the past with which we and future generations might now disagree. The future can thus also be colonised in the sense that various possible futures no longer exist, e.g. a future free of radioactive nuclear waste is no longer possible. Pupils need to understand this process and the way in which it undermines their own interests and those of future generations.

Views of the Future

People's views of the future can vary radically depending on their underlying assumptions and values. Consider the following five sketches of commonly held views of the future.

1. Business as usual

This view is held by those who argue that the future will be very much like today. In other words there will be the usual alarms and excursions, but nothing that cannot be effectively dealt with. The main problems in the future will be similar to those of today and solvable in similar ways, in short, the world will go on much as it has done before.

2. Edge of disaster

This view is held by those who believe that we are on the verge of one or more major catastrophes, the signs of which are already clearly evident. They range from accidental nuclear war, major famine and poverty, breakdown of law and order, to environmental pollution and global warming. Life as we know it is on the verge of breakdown and when various elements collapse it will never be the same again.

3. Authoritarian control

This view is held by those who feel that the risk of disaster is so great that the best solution is imposition of some form of strict external authority. Only this will be able to prevent major disorder by controlling, for example, population growth or the use of increasingly scarce resources. In this way chaos and confrontation, whether national or international, can be avoided.

4. Technological growth

This view is held by those who believe that the answer to most problems lies in the accelerated growth of science and technology. Thus, nuclear energy, computerisation, genetic engineering, lunar colonisation, are all seen as offering dramatic rewards, especially for business. (This vision of the future particularly appeals to many men and boys.)

5. Ecological insight

This view is held by those who believe that the future must involve a major change in direction, away from a mechanistic and fragmented view of the world to a more holistic and ecological one. It requires a major shift away from the technical and economic goals towards a more humane, ecological and person-centred vision of society.

The actual future may well involve a mix of all these elements depending in part on who you are and where

you live on this planet. All images of the future, popular and academic, reflect the inquirer's normative preconceptions. Wagar thus describes three main perspectives on the future which he defines as "technoliberal", "radical", and "countercultural".

The technoliberal approach embraces conservative and neo-conservative perspectives, which emphasise the power of technology to solve future problems. This is characteristic of much of the North American literature on futures. The radical approach embraces socialist and social-democratic perspectives, and challenges the political and economic models of the technoliberals. It is more commonly associated with European futurists. The counterculturalist approach embraces a variety of "deep green" and New Age perspectives, which directly challenge many of the central values of Western society.

Probable/Preferable Futures

One of the most useful initial frameworks for exploring alternative futures is the distinction between probable and preferable futures. Probable futures are all those which seem likely to come about. They are often arrived at by the extrapolation of current trends, whether in relation to population growth, car ownership, desertification or global warming. Forecasts are then made about what is expected to happen. Most of the long-term planning carried out by business and industry is of this nature. When people think about the future it is often their image of the probable future that comes to mind. Much of the current debate about global warming, for example, is about which figures for temperature increase are most likely. Depending on which forecast is taken the consequences in terms of sea-level rise and changing climate vary considerably.

Preferable futures are all those which people feel *should* come about. Such desirable futures are based on our hopes, aspirations and dreams. They embody our notions of what a better world might be like. Throughout history it has been such visions which have inspired struggles for better working conditions, the right to free speech and the right to vote. We benefit today from what others fought for in the past, inheriting crucial elements of *their* preferable futures.

Studying alternative futures and drawing on the tools and techniques that futurists use can greatly enhance any investigation of contemporary social, political, economic and technological issues. Emphasising the futures dimension in education is essential because this is the only part of history still open to change.

APPRECIATING SUSTAINABLE FUTURES

DAVID HICKS
GLOBAL FUTURES PROJECT

INTRODUCTION

This workshop follows on from Workshop Module 4 on *Introducing Alternative Futures*. It extends the notion of preferable futures by inviting participants to explore possible "goals for a better world" with particular reference to some key elements of sustainability.

OUTCOMES

During this workshop, participants will:

- appreciate the importance of being able to identify preferable futures, particularly those which are more just and sustainable than today;
- evaluate alternative goals for the future;
- explore the meaning of the term "sustainability"; and
- apply the concepts in this workshop to selected topics in environmental and development education.

WORKSHOP OUTLINE

1. Introduction: Preferable futures - the main features

In this activity, participants work together to develop a collective preferable future based on their personal preferred futures timelines drawn in the workshop module *Introducing Alternative Futures*.

2. A Better World: 5 Goals

Participants consider 5 goals for a better world and discuss their practice both locally and globally.

3. Sustainability

Participants create a flow diagram to illustrate the interrelationships between elements of sustainable development. The group also prepares a short briefing paper on "The Way Ahead".

4. Application

In small groups, participants apply an element of sustainability to a chosen environmental or development issue or a specific area of the curriculum.

MATERIALS REQUIRED A) PROVIDED

RESOURCES

Resource 1: Envisioning the Future

Resource 2: Goals for a Better World

Resource 3: Notes on Sustainability

READING

Reading 1: Brown, L. (1991) A sustainable future, *Resurgence*, No 147, pp 8-13.

B) TO OBTAIN

Activity 1: The completed futures timelines from the workshop on "Introducing Alternative Futures" are needed. Alternatively, if that workshop has not been used with the group, The timeline activity can be used to introduce this workshop.

Activity 3: Resource 3 needs to be copied and cut up into slips so that each group has a set of statements.

A3, glue, felt pens

ADDITIONAL READING

Brown, L., et.al. (1992) *State of the World 1992*, Earthscan Publications, London.

Brown, L., Flavin, C. and Postel, S. (1991) *Saving the Planet: How to Shape an Environmentally Sustainable Global Economy*, W.W. Norton and Co., New York.

Green justice: The South speaks out, *The New Internationalist*, No 230, April 1992.

Milbrath, L. (1989) *Envisioning a Sustainable Society*, State University of New York Press, Albany.

Meadows, D. and Meadows, D. and Randers, J. (1992) *Beyond the Limits: Global Collapse or Sustainable Future*, Earthscan Publications, London.

ACTIVITIES

1. INTRODUCTION

- Participants look again at the preferable timelines drawn in pairs for the workshop "Introducing Alternative Futures". The timeline activity may be used to introduce this workshop if that workshop has not been completed.
- Small groups are formed by three pairs coming together. They take it in turns to share the following:
 - What is the most *important* feature of your preferable timeline?
 - What key areas of concern does it cover, e.g. the environment, work, health?
- Each group then works to create a composite picture of their preferred future. This can be in drawn or written form.
- Distribute Resource 1 on "Envisioning the Future" to the groups who discuss: Which images of the future does each group feel might develop the "cultural resonance" needed to act as new guiding images for society?
- Each group summarises the main features of their collective preferable future to the whole group. They highlight any elements which they feel may act as "new guiding images" for society.

2. FIVE GOALS

- Distribute copies of Resource 2 on "Goals for a Better World". The group takes each goal in turn and considers what it would like in practice, locally and globally, by discussing the following questions. Alternatively each group could look at one goal each.
 - Why is this a critical goal for a better world?
 - What might it *look like* in practice?
 - What is *already* being done to achieve such goals and by whom?
 - What should educators be doing about this goal?
- Groups report back by displaying their answers as a check-list or flow chart.
- Follow-up questions could be:
 - What might we want to do to help achieve such goals?
 - How might these goals be perceived differently depending on gender, race, age or class?

3. SUSTAINABILITY

- Tell participants that sustainable development has been most succinctly defined as "development which meets the needs of the present without jeopardising the needs of future generations."
- Participants work in pairs with a clear space between them. They need a set of the statements from Resource 3 "Notes on sustainability" cut up into slips.
- Participants read and lay out the statements to create their own annotated flow diagram (on a sheet of A3 paper) to show how each of these elements are interrelated. The slips are glued down when agreement is reached. Lines are drawn to show linkages.
- Around each statement, participants write:

- examples we know about; and
- things we want to research.
- The finished flowcharts are displayed and discussed.
- Distribute a complete copy of Resource 3 to each person. This will be used as a model in the next part of this activity.
- Distribute the follow-up reading, Lester Brown's "A Sustainable Future." (Resource 4). From this, each group prepares a short briefing paper on "The Way Ahead." The paper should be written in the same style as Resource 3.
- Discuss ways in which "The Way Ahead" can be used to develop an experiential learning activity.

4. APPLICATION

- Participants work in small groups. Each group selects one element of sustainability to apply either to a chosen environmental or development issue or a specific area of the curriculum. They discuss "What does the notion of sustainability add to the study of that issue or curriculum area?"
- A spokesperson should report back briefly from each group.
- The session concludes with a whole group discussion on "Why an understanding of sustainability is essential for the future."

RESOURCE 1

ENVISIONING THE FUTURE

The images and expectations that we have of the future affect what we think is worth doing in the present. Fear of the future can be disempowering but it can also lead to engagement in social and political action to bring a different sort of world about. The resurgence of the peace movement in the early 1980s and, more recently, the environmental movement are cases in point. The images we have of the future matter because they help determine our priorities in the present.

Images of the future play a critical role in the creation of change. They are continuously being promoted by big business, advertising, politicians, the media and in science fiction. They exert a powerful influence over what people think is, or is not, worth doing in the present. We can most easily work towards the future we prefer if we have clear images of where we want to go and how we might get there. Sharing the process of envisioning these futures with others enhances their creative power, both at the individual and societal levels. Elise Boulding writes:

At any moment, there are hundreds of images of possible futures being generated within each society, and thousands for the planet as a whole. In any cultural epoch, only certain images of the future out of that much wider pool develop enough cultural resonance to affect the course of events. There is a selective empowerment of certain images, which "explode" later, like time bombs, into the realised future.

(Building a Global Civic Culture, Teachers College Press, New York, 1988.)

A crisis of direction in society, national or global, may stimulate the emergence of new guiding images. In this period of rapid change and social upheaval we should be searching for new guiding images - it may well be that the concept of sustainability provides just such an image.



RESOURCE 2

GOALS FOR A BETTER WORLD

The following list contains five goals for a better world. Take each goal in turn, and answer the following questions on each one:

- Why is this a critical goal for a better world?
- What might it *look like* in practice?
- What is *already* being done to achieve such goals and by whom?
- What should educators be doing about this goal?

1. Economic welfare

Everyone should have access to the basic necessities of life such as food, clothes, shelter, health care and education. There should be both a minimum level of welfare, below which no one should drop, but also a maximum level beyond which no one should go, due to the finite nature of many of the earth's resources.

2. Freedom from violence

No one should be subjected to direct personal violence, e.g. through assault, robbery or war and neither should they suffer from indirect violence. Unjust social, political and economic systems can equally cause suffering in the form of poverty, hunger, and other deprivation.

3. Social justice

What one 'has' should not depend on who one 'is' in society. Thus the practices and procedures for allocating resources should not discriminate, directly or indirectly, on the basis of gender, race, class, culture or group.

4. Ecological diversity

This requires full and appropriate protection of the biosphere on which all life depends. Thus the rights of non-human species must also be recognised and the need for concerned stewardship of air, water, soil, creatures and plants.

5. Participation in decisions

Genuine participation in all aspects of one's own life offers opportunities for responsibility, personal growth and enrichment. It means being in control of one's own life choices and being free to choose. This leads to ownership of decisions and is the reverse of alienation.

RESOURCE 3

NOTES ON SUSTAINABILITY

Energy

Continued reliance on fossil fuels such as coal and oil is likely to cause major climatic change, whilst nuclear power has increasingly proved to be a social, economic and environmental liability. A sustainable future will emphasise greatly increased energy efficiency together with renewable energy sources such as solar, wind, water and biomass.

Transport

Unrestricted use of the car has created a major series of related problems ranging from severe traffic congestion and dangerous air pollution to urban sprawl. A sustainable future will minimise the need for people to travel, with jobs being closer to home, and emphasise the use of public transport, buses, trams and light rail, as well as cycling and walking.

Environment

Unrestrained consumption of the earth's resources is beginning to produce irreversible damage to the biosphere and a major loss of on land, air and water. In a sustainable future people will see themselves as a part of nature rather than separate from it and environmental conservation will have as high a priority as economic growth.

Economics

Traditional models of development focus narrowly on economic growth as the indicator of "progress". A range of costs are thus "discounted" e.g. damage to the environment, the effect on the poor, and the effect on future generations. In a sustainable future much more comprehensive indicators of human well-being will be used.

Cities

Uncontrolled urban growth is having a profound impact on human and planetary well-being, both in the rich and poor world. In a sustainable future planning will be more participatory and land-use and transport policies carefully integrated. Homes, jobs, services and amenities will be mixed together and thus more easily accessible by public transport, cycle or foot.

Poverty

In the poor South 3/4 of the world's people consume 17% of the world's resources, whilst in the rich North 1/4 of the world's people consume 83% of the resources. Debt and falling export prices encourage unsustainable development. A sustainable future for all requires a major change of direction in the policies and lifestyles of the North towards greater justice and equity.

Resources

In a sustainable future waste reduction and recycling will have replaced rubbish collection and disposal. Planned obsolescence, appeals to convenience, and the throwaway society of today will be seen as an aberration. Manufacturing will thus be less energy intensive and less polluting. Many items will be re-used, recycled to form new products or burnt to extract energy.

Farming

Current intensive farming methods often lead to extensive land degradation and a massive international effort is needed to protect soil, conserve water and restore soil productivity. In a sustainable future more emphasis will be placed on organic husbandry and mixed farming with biological pest controls. More food will be grown and consumed locally and regionally.

Population

During the last decade of this century world population is expected to increase by at least 960 million people. The rate of population growth tends to fall as standards of living, health and education, especially of women, increase. In a sustainable future emphasis will be given to this and world population could stabilise at eight billion by the year 2030.

READING 1

Source: Brown, L. R. (1991) A Sustainable Future, *Resurgence*, No 147, 8-13.

What picture of the future can we use to guide our actions towards a global community that can endure?

THROUGHOUT OUR lifetimes, expanding economic activity has shaped environmental trends, often altering the Earth's natural systems in ways not obvious at the time. Now, we are moving into a period where the environmental changes we have set in motion increasingly will be shaping economic trends.

Each year, the earth's forest cover grows smaller while the deserts grow larger. Each year, the amount of topsoil on our croplands diminishes, and the stratospheric ozone layer that protects us from harmful ultraviolet radiation is depleted. Each year, the concentrations of heat-trapping gases in the atmosphere rise and the number of plant and animal species shrinks. The economic effects of the environmental degradation of the planet are already affecting world food production. All forms of environmental degradation, ranging from soil erosion to the hotter summers projected as the world warms, affect agriculture adversely.

The detrimental economic consequences of environmental degradation are no longer hypothetical. They can be seen in both Africa and Latin America where a combination of rapid population growth, environmental degradation, and rising external debt have contributed to falling living standards throughout the eighties. Both Africa and Latin America ended the eighties with lower living standards and more hunger than they had when the decade began.

After a point, environmental degradation and economic decline begin to feed on each other. If we have not reversed some of these trends by the end of the nineties, the downward spiral of environmental degradation



If wind can generate energy why go for risky nuclear power? Photograph courtesy of the Environmental Picture Library.

and economic decline could spread to large areas of the world. That's the bad news. The good news is that public awareness of the extent and effects of the degradation of the planet is rising everywhere. This, combined with the ending of the Cold War, provides hope for redefining security, for recognizing that the real threats to our future come more from the environmental degradation of the planet than from military aggression.

Building an environmentally sustainable global economy, one that satisfies our needs without jeopardiz-

ing the prospects of future generations, will be a massive undertaking. Unfortunately no models of sustainability exist today. For the past several decades, most developing nations have aspired to the automobile-centred, fossil-fuel-driven economies of the industrial West. But from the localized problems of intractable air pollution to the global threat of climate change, it is now clear that these societies are far from durable; indeed they are rapidly bringing about their own demise.

Successfully structuring a sustainable society requires that we have some vision of what it would look like, how it would function. If not fossil fuels to power society, then what? If forests are no longer to be cleared to grow food, then how is a larger population to be fed? If a throwaway culture leads inevitably to pollution and resource depletion, how can we satisfy our material needs? In sum, if the present path is so obviously unsound, what picture of the future can we use to guide our actions toward a global community that can endure?

Describing the shape of a sustainable society is a risky proposition. Ideas and technologies yet unknown will fill in many of the gaps. But just as any technology of flight, however primitive or advanced, must abide by the basic principles of aerodynamics, so must a lasting society satisfy some immutable criteria. With that understanding and from the experience garnered in recent decades, it is possible to describe an environmentally sustainable global economy, one that will yield a society quite different, indeed preferable to today's.

TIME TO GET the world on a sustainable path is rapidly running out. We

believe that if humanity achieves sustainability, it will do so within the next forty years. If we have not succeeded by then, environmental deterioration and economic decline will be feeding on each other, pulling us into a downward spiral of social decay and political upheaval. At such a point, reclaiming any hope of a sustainable future may simply be impossible. Our vision therefore looks to the year 2030, a time closer to the present than the end of World War II.

Sketching the outlines of a sustainable society obviously requires some basic assumptions. First, new technologies will of course be developed. Forty years ago, for example, some renewable energy technologies now on the market did not even exist. Under the pressure of finding a means to slow global warming, researchers are likely to develop a range of new energy technologies, some of which may be difficult to imagine at the moment. In the interest of being conservative, however, the future we sketch is based only on existing technologies and foreseeable improvements in them.

Second, the world economy of 2030 will most certainly not be powered by coal, oil, and natural gas. It is now well accepted that continuing heavy reliance on fossil fuels will cause catastrophic changes in climate. The most recent scientific evidence suggests that stabilizing the climate depends on eventually cutting annual global carbon emissions to some two billion tons per year, about one third the current level. Taking population growth into account, the world in 2030 will therefore have per capita carbon emissions that are one eighth the level in Western Europe today.

The choice then becomes whether to make solar or nuclear power the centerpiece of energy systems. We believe societies will reject nuclear power because of its long list of economic, social, and environmental liabilities. The nuclear industry has been in decline for over a decade. Only ninety-four plants remain under construction, down from nearly 200 a decade ago, and most will be completed in the next few years. Safety concerns and the failure to develop a safe way to store nuclear waste have turned people away from nuclear power.

It is of course possible that scientists could develop new nuclear technologies that are more economical and less accident-prone. Yet this would not solve the waste problem. Nor would it alleviate growing concern about the

use of nuclear energy as a stepping stone to developing nuclear weapons. Trying to prevent this in a plutonium-based economy with thousands of operating plants would require a degree of control that is probably incompatible with democratic political systems. Societies are likely to opt instead for diverse, solar-based systems.

The third major assumption is about population size. Current UN projections have the world headed for nearly nine billion people by 2030. This figure implies a doubling or tripling of the populations of Ethiopia, India, Nigeria, and scores of other countries where human numbers are

The real threats to our future come more from the environmental degradation of the planet than from military aggression.

already overtaxing natural support systems. Either these societies will move quickly to encourage smaller families and bring birth rates down, or rising death rates from hunger and malnutrition will check population growth.

The humane path to sustainability by the year 2030 therefore requires a dramatic drop in birth rates. As of 1990, thirteen European countries have stable populations; by 2030, most countries are likely to be in that category. For the world as a whole, human numbers will total well below nine billion. We assume a population of at most eight billion that will either be essentially stable or declining slowly, toward a number the earth can comfortably support indefinitely.

In the end, individual values are what drive social change. Progress towards sustainability thus hinges on a collective deepening of our sense of responsibility to the earth and to future generations. Without a re-evaluation of our personal aspirations and motivations, we will never achieve an environmentally sound global community.

DURING THE SEVENTIES and eighties, policymakers assumed that changes in the world energy system would be driven by depletion of the world's fossil fuel resources: as we gradually ran out of oil, coal, and natural gas, we would be forced to develop alternatives. Such a transition

would have been comfortably gradual, extending over more than a century. But now the world faces a new set of limits. Long before fossil fuels are exhausted, rising global temperatures from their use could spell an end to civilization as we know it.

The world energy system in the year 2030 is thus likely to bear little resemblance to today's. No longer dominated by fossil fuels, it will be run by solar resources daily replenished by incoming sunlight and by geothermal energy. And it will be far more energy-efficient.

In many ways, the solar age today is where the coal age was when the steam engine was invented in the eighteenth century. At that time, coal was used to heat homes and smelt iron ore, but the notion of using coal-fired steam engines to power factories or transportation systems was just emerging. Yet only a short time later the first railroad started running, and fossil fuels began to transform the world economy.

The late twentieth century, then, is the dawn of the solar age. Many technologies have been developed that allow us to harness the energy of the sun effectively, but these devices are so far only in limited use. Without question, these resources are available in immense quantities: the annual influx of accessible renewable resources in the United States is estimated at 250 times the country's annual use of energy.

The mix of energy sources will likely reflect the climate and natural resources of each particular region. Northern Europe, for example, is likely to rely heavily on wind and hydropower. The economies of northern Africa and the Middle East may instead use direct sunlight. Japan and the Philippines will tap their abundant geothermal energy. And Southeast Asian economies will be powered largely by wood and agricultural wastes, along with sunshine. Some nations, Norway and Brazil for example, already obtain over half their energy from renewables.

Although some countries are likely to import renewable energy, the enormous oil-related bills that characterize modern trade relationships will dwindle. And renewable energy sources are to a large extent inflation-proof: solar, wind, and geothermal power plants require no fuel and so are not vulnerable to fuel price increases.

Due to the abundance of sunlight, direct conversion of solar energy will be the cornerstone of a sustainable world energy system. By 2030, solar



Bicycle: safe for you, safe for the environment. Photograph by Gilles Perle/ Magnum.

panels will heat most residential water around the world. A typical urban landscape will have thousands of collectors sprouting from rooftops, much as television antennas do today.

Solar thermal power is poised to become a principal means of harnessing sunlight. It uses mirrored troughs to focus sunlight onto oil-filled tubes that convey heat to a turbine and generator that then produce electricity. An 80-megawatt solar thermal plant built in the desert east of Los Angeles in 1989 converts an extraordinary twenty-two per cent of the incoming sunlight into electricity; at a third less than the cost of power from new nuclear plants. Such plants may make the deserts of the United States, North Africa, and central Asia major exporters of electricity and hydrogen fuel.

Photovoltaic solar cells are a semiconductor technology that converts sunlight directly into electricity. Currently, photovoltaic systems are less efficient and four times as expensive as solar thermal power is. But they are already used in remote locations, and the cost is likely to decline rapidly.

Photovoltaics can be used not only in large electricity plants but to power

small water pumps and rural communications systems. In addition, all Third World villages can be electrified with this technology. Unlike communities today, these villages will not have to depend on extended power lines connected to centralized plants.

Using this technology, homeowners throughout the world may become producers as well as consumers of electricity. Indeed, photovoltaic shingles have already been developed that allow roofing material itself to become a power source. As costs continue to decline, many homes will be apt to get much of their electricity from photovoltaics, and in sunny regions residents will sell any surplus to the utility company for use by others.

Wind power is an indirect form of solar energy, generated by the sun's differential heating of the earth's atmosphere. Wind energy is already close to competitive with new coal-fired power plants. Engineers are confident that they will soon have improved wind turbines that are economical not just in California's blustery mountain passes, where they are now commonplace, but in vast stretches of the US northern plains and many other areas.

The United States could be deriving ten to twenty per cent of its electricity from the wind by 2030. Wind power is likely to attract new industries into windswept regions. The wind resources of the US Great Plains, which have long pumped water for millions of cattle, may one day be used to generate electricity for sale to Denver, Kansas City, and other major cities.

For hydropower, which now supplies nearly one fifth of the world's electricity, prospects for future growth are most promising in the Third World, where the undeveloped potential is still large. Small-scale projects are likely to be more appealing than the massive projects favoured by governments and international lending agencies in past decades. In deciding which hydropower resources to develop, environmental issues such as land flooding and siltation will play an important role.

LIVING PLANTS PROVIDE another means of capturing solar energy. Through photosynthesis, they convert sunlight into biomass that can be burned. Today, wood already provides twelve per cent of the world's energy, chiefly in the form of firewood and

charcoal in developing countries. Its use will surely expand during the next forty years, though resource constraints will not permit it to replace all of the vast quantities of liquid fuels in use today.

One promising approach is to grow energy crops on marginal lands not currently used for food. Land that is too steeply sloping or not sufficiently fertile or well watered for crops might support trees that are periodically harvested. The wood could then be burned directly in a wood-fired power plant or converted to ethanol.

Geothermal energy employs the huge reservoir of heat that lies beneath the earth's surface, making it the only renewable source that does not rely on sunlight. Continuing advances will allow engineers to use previously unexploitable, lower-temperature reservoirs that are hundreds of times as abundant as those in use today. Virtually all Pacific Rim countries, as well as those along East Africa's Great Rift and Mediterranean Sea, are well endowed with geothermal energy.

In both industrial and developing nations, energy production inevitably will be much more decentralized, breaking up the huge industries that have been a dominant part of the economic scene in the late twentieth century.

GETTING TOTAL GLOBAL carbon emissions down to two billion tons a year requires vast improvements in energy efficiency. Fortunately, many of the technologies to accomplish such reductions are already at hand and cost-effective. No technical breakthroughs are needed, for example, to double automobile fuel economy, triple the efficiency of lighting systems, or cut typical heating requirements by seventy-five per cent.

Automobiles in 2030 will be apt to get at least 100 miles per gallon of fuel, four times the current average for new cars. A hint of what such vehicles may be like is given in a recently developed prototype, the Volvo LCP 2000. It is an aerodynamic four-passenger car that weighs just half as much as today's models. Moreover, it has a highly efficient and clean-burning diesel engine. With the addition of a continuously variable transmission and a flywheel energy storage device, this vehicle could get ninety miles to the gallon.

Forty years from now, Thomas Edison's revolutionary incandescent light bulbs may be found only in museums,

replaced by a variety of new lighting systems, including halogen and sodium lights. The most important new light source may be compact fluorescent bulbs that, for example, use eighteen watts rather than seventy-five to produce the same amount of light.

In 2030, homes are likely to be weather-tight and highly insulated, greatly reducing the need for both heating and cooling.

By the year 2030, a much more diverse set of transportation options will exist. The typical European or Japanese city today has already taken one step toward this future. Highly developed rail and bus systems move people efficiently between home and work: in Tokyo only fifteen per cent of commuters drive cars to the office.

The bicycle will play a major role, as it already does in much of Asia as well as in some industrial-country towns and cities. In Amsterdam and many other communities such as Davis, California, bike-path networks have been developed that encourage widespread use of this form of personal transport. There are already twice as many bikes as cars worldwide. In the bicycle-centred transport system of 2030, the ratio could easily be ten to one.

Forty years from now, people will live closer to their jobs, and much socializing and shopping will be done by bike rather than in a one-ton automobile. Computerized delivery services may allow people to shop from home—consuming less time as well as less energy. In addition, a world that allows only two billion tons of carbon emissions cannot be trucking vast quantities of food and other items thousands of kilometres.

Telecommunications will substitute for travel as well. Many people may work at home or in special satellite offices, connected to colleagues and supervisors by electronic lines rather than crowded highways. Daily trips to the office could be replaced by occasional visits. The saved time and frustration will both raise productivity and the quality of life. The automobile-based modern world is now only about forty years old, but with its damaging air pollution and traffic congestion, it does not represent the pinnacle in human social evolution. Although a world where cars play a minor role may be hard to imagine, our grandparents would have had a hard time visualizing today's world of traffic jams and smog-filled cities.

IN THE SUSTAINABLE, efficient economy of 2030, waste reduction and recycling industries will have largely replaced the garbage collection and disposal companies of today. The throwaway society that has emerged during the late twentieth century uses so much energy, emits so much carbon, and generates so much air pollution, acid rain, water pollution, toxic waste, and rubbish that it is strangling itself. Rooted in planned obsolescence and appeals to convenience, it will be seen by historians as an aberration.

Most materials used today are discarded after one use; roughly two thirds of all aluminium, three quarters of all steel and paper, and an even higher share of plastic. Society will become less energy-intensive and less polluting only if the throwaway mentality is replaced by a recycling ethic.

Just five per cent as much energy is needed to recycle aluminium as to produce it from bauxite ore. For steel produced entirely from scrap, the saving amounts to roughly two thirds. Newsprint from recycled paper takes twenty five to sixty per cent less energy to make than that from wood pulp. And recycling glass saves up to a third of the energy embodied in the original product.

Recycling is also a key to getting land, air, and water pollution down to acceptable levels. For example, steel produced from scrap reduces air pollution by eighty-five per cent, cuts water pollution by seventy-six per cent, and eliminates mining wastes altogether. Paper from recycled material reduces pollutants entering the air by seventy-four per cent and the water by thirty-five per cent, as well as reducing pressures on forests in direct proportion to the amount recycled.

A hierarchy of options can guide materials policy: the first priority, of course, is to avoid using any nonessential item, a goal that can be furthered by concentrating design talents on durability instead of planned obsolescence. Second is to directly reuse a product, for example, refilling a glass beverage container. The third is to recycle the material to form a new product. Fourth, the material can be burned to extract whatever energy it contains, as long as this can be done safely. And finally, the option of last resort is disposal in a landfill.

For many cities, garbage disposal costs during the last decade increased several-fold, making it cost-effective for them to help establish recycling industries. During the nineties, this trend

will be reinforced by the need to reduce carbon emissions, air pollution, acid rain, and toxic waste. In the early stages, countries will move toward comprehensive, systematic recycling of metal, glass, paper, and other materials, beginning with a source separation at the consumer level.

In the sustainable economy of 2030, the principal source of materials for industry will be recycled goods. Most of the raw material for the aluminium mill will come from the local scrap collection centre, not from the bauxite mine. Paper and paper products will be produced at recycling mills, with recycled paper moving through a hierarchy of uses, from high-quality bond to newsprint and, eventually, into cardboard boxes. Industries will turn to virgin raw materials only to replace any losses in use and recycling.

Although early moves away from the throwaway society are concentrating on recycling, sustainability over the long term depends more on eliminating waste flows. One of the most obvious places to reduce the volume of waste generated is in industry, where a restructuring of manufacturing processes can easily slash wastes by a third or more.

Another major potential source of waste reduction lies in the simplification of food packaging. In the United States, consumers spent more on food packaging in 1986 than American farmers earned selling their crops. In the interest of attracting customers, items are sometimes buried in three or four layers of packaging. Forty years from now, government regulation is likely to have eliminated excessive packaging. Throwaway grocery bags will have been replaced by durable, reusable bags of canvas or other material.

Societies in 2030 may also have decided to replace multi-sized and shaped beverage containers with a set of standardized ones made of durable glass that can be reused many times. These could be used for most, if not all, beverages, such as fruit juices, beer, milk, and soda pop. Containers returned to the supermarket or other outlet might become part of an urban or regional computerized inventory.

IN ADDITION TO RECYCLING and reusing metal, glass, and paper, a sustainable society also recycles nutrients. In nature, one organism's waste is another's sustenance; in urban societies, however, human sewage has become a troublesome source of pollutants in rivers, lakes, and coastal wa-

ters. The nutrient in human wastes can be reused safely as long as the process includes measures to prevent the spread of disease.

In some Asian cities, human waste is already systematically returned to the land in vegetable-growing greenbelts around cities. Intensively farmed cropland surrounding some cities there produces vegetables year-round using greenhouses or plastic covering during the winter to extend the growing season. Perhaps the best model is Shanghai: after modestly expanding its urban political boundaries to facilitate sewage recycling, the city now produces an exportable surplus of vegetables.

Some cities will probably find it more efficient to use treated human sewage to fertilize aquacultural operations. A steady flow of nutrients from human waste into ponds can supply food for a vigorously growing population of algae that in turn are consumed by fish. In Calcutta, a sewage-fed aquaculture system now provides 20,000 kilograms of fresh fish each day for sale in the city.

SOCIETIES IN 2030 will be using the land intensively; the needs of a population more than half again as large as today's cannot be met otherwise. But unlike the present, land use patterns would be abiding by basic principles of biological stability: nutrient retention, carbon balance, soil protection, water conservation, and preservation of species diversity. Harvests will rarely exceed sustainable yields.

Meeting food needs will pose monumental challenges, as some simple numbers illustrate. By 2030, assuming cropland area expands by five per cent between now and then and that population grows to eight billion, cropland per person will have dropped to a third less than we have in today's inadequately fed world. Virtually all of Asia, and especially China, will be struggling to feed its people from a far more meagre cropland area per person.

In light of these constraints, the rural landscapes of 2030 are likely to exhibit greater diversity than they do now. Variations in soils, slope, climate, and water availability will require different patterns and strains of crops grown in different ways so as to maximize sustainable output. For example, farmers may adopt numerous forms of agroforestry; the combined production of crops and trees to provide food, biomass, and fodder, while

also adding nutrients to soils and controlling water runoff.

THE FUNDAMENTAL CHANGES that are needed in energy, forestry, agriculture, and other physical systems cannot occur without corresponding shifts in the social, economic, and moral character of human societies. During the transition to sustainability, political leaders and citizens alike will be forced to reevaluate their goals and aspirations and to adjust to a new set of principles that have at their core the welfare of future generations.

Shifts in employment will be among the most visible as the transition gets under way. Moving from fossil fuels to a diverse set of renewable energy sources, extracting fewer materials from the earth and recycling more, and revamping farming and forestry practices will greatly expand opportunities in new areas. Losses in coal mining, auto production, and metals prospecting will be offset by gains in the manufacture and sale of photovoltaic solar cells, wind turbines, bicycles, mass transit equipment, and a host of materials recycling technologies.

Wind prospectors, energy efficiency auditors, and solar architects will be among the booming professions stemming from the shift to a highly efficient, renewable energy economy. Numbering in the hundreds of thousands today, jobs in these fields may collectively total in the millions worldwide within a few decades. Opportunities in forestry will expand markedly.

Many people will find their skills valued in new or expanded lines of work. Petroleum geologists may be retrained as geothermal geologists, for example, while traditional midwives continue to broaden their roles to include the spectrum of family planning needs.

Long before 2030, the trend toward ever larger cities and an increasing ratio of urban-to-rural dwellers is likely to have reversed. For example, the increasing energy intensity of food distribution necessitated by cities cannot continue indefinitely. Smaller human settlements will also be favoured by the shift to renewable energy sources.

Power from renewable technologies, whether photovoltaic cells, wood-fired plants, or wind generators, will allow local areas to capitalize on their natural endowments, whether that be strong winds, bright sunshine, abun-



Public transport: sky train in Tokyo reduces car use. Photograph by Mava Riboud/Magnum.

dant woodlands, or proximity to geothermal reservoirs. In so doing, they foster greater local self-reliance.

As the transition to a more environmentally benign economy progresses, sustainability will gradually eclipse growth as the focus of economic policy-making. Over the next few decades, government policies will encourage investments that promote stability and endurance at the expense of those that simply expand short-term production.

As a yardstick of progress, the gross national product (GNP) will be seen as a bankrupt indicator. By measuring flows of goods and services, GNP undervalues qualities a sustainable society strives for, such as durability and resource protection, and overvalues planned obsolescence and

waste. The pollution caused by a coal-burning power plant, for instance, raises GNP by requiring expenditures on lung disease treatment and the purchase of a scrubber to control emissions. Yet society would be far better off if power were generated in ways that did not pollute the air in the first place.

In 2030, planners will measure economic and social advances by sustainability criteria rather than simply by growth in short-term output. As economist Herman Daly observes, a new direction of technical progress is needed, "one that squeezes more service per unit of resource, rather than one that just runs more resources through the system."

National military budgets in a sus-

tainable world will be a small fraction of what they are today. Moreover, sustainability cannot be achieved without a massive shift of resources from military endeavours into energy efficiency, soil conservation, tree planting, family planning, and other needed development activities. Rather than maintaining large defence establishments, governments may come to rely on a strengthened UN peacekeeping force.

Nations will undoubtedly be co-operating in numerous other ways as well. Careful tracking of changes in atmospheric chemistry, forest cover, land productivity, and ocean resources will be among the many efforts handled by multinational teams of scientists and government workers. Even as individual nations move to decentralize power and decision making within their own borders, they may simultaneously establish an unprecedented degree of co-operation and coordination at the international level.

Movement toward a lasting society cannot occur without a transformation of individual priorities and values. Throughout the ages, philosophers and religious leaders have denounced materialism as a viable path to human fulfilment. Yet societies across the ideological spectrum have persisted in equating quality of life with increased consumption.

Because of the strain on resources it creates, materialism simply cannot survive the transition to a sustainable world. As public understanding of the need to adopt simpler and less consumptive life-styles spreads, it will become unfashionable to own fancy new cars and clothes. The potential benefits of unleashing the human energy now devoted to producing, advertising, buying, consuming, and discarding material goods are enormous.

This energy can be channelled into forming richer human relationships, stronger communities, and greater outlets for cultural diversity, music, and the arts. As the amassing of personal and national wealth becomes less of a goal, the gap between haves and have-nots will gradually close. ●

Lester Brown is President of Worldwatch Institute. He is a recipient of a \$250,000 MacArthur Foundation 'genius award' and winner of the UN's 1989 environment prize. He will give a 1991 Schumacher Lecture on 6th October in Bristol. For tickets and further information write to: Schumacher Society, Ford House, Hartland, Bideford, Devon EX39 6EE.

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NEW SCIENCE

a new

WORLDVIEW

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INTRODUCTION

This workshop provides an introduction to the nature of "new science" and explores its implications for teaching. "New science", sometimes called postmodern science, is the convergence of thermodynamics, quantum physics and chaos theory. The workshop attempts to link "new science" concepts with environment and development education by critically examining the modern scientific worldview and its origins. Participants are encouraged to critique this worldview and explore an ecological world view held by an increasing number of theoretical scientists, particularly physicists.

OUTCOMES

Through the activities in this workshop, participants will develop:

- an understanding of the nature and significance of "new science", its links with environment and development education and its implications for teaching; and
- the ability to apply the "new science" concepts to teaching and learning activities and programs.

WORKSHOP OUTLINE Overview

Facilitator outlines the organisation of the workshop

1: Science and You

A. Truths and lies about science

A warm-up activity where participants explore their own and each others' perceptions of science

B. Classifying statements about science

A focussing activity looking at statements about science (small group work, reporting back to whole group)



2. Science and Your Worldview

- A. Mini lecture to the whole group about the modern scientific worldview
- B. Small groups design consequence wheels
- C. Mini lecture to whole group about "new science" and a new worldview
- D. Reclassifying statements about science into industrial and ecological classifications (use same small groups as in 1.B)

3: "New Science" in Practice

- A. Designing concept maps using action research model

In small groups, participants choose a science topic and consider how they can incorporate "new science" ideas or choose a social or environmental issue and consider how to plan a unit of work based on an action research model.

- B. A teaching unit framework

Participants evaluate action research as a framework for teaching "new science".

- C. Putting a "new science" into practice.

Participants translate what they've learnt into practical plans for the future

MATERIALS REQUIRED

A) PROVIDED

OVERHEAD TRANSPARENCY MASTERS:

- OHT 1: Overview of Workshop
- OHT 2: Quotation by Barry Jones on the History of Science
- OHT 3: The Modern Scientific Paradigm
- OHT 4: Sample Consequence Wheel
- OHT 5: The New Scientific Paradigm
- OHT 6: Sample Concept Map

RESOURCES

- Resource 1: Statements About Science and Science Education
- Resource 2: Source of the Statements
- Resource 3: Action Research Model
- Resource 4: Reflection and Planning Sheet

READING

- Reading 1: Gordon, K. (1993) *A New Alliance*, unpublished paper.

B) TO OBTAIN

- one piece of 'post it' / sticky paper per participant
- butcher paper and pens
- scissors
- envelopes

ADDITIONAL READING

- Best, S. (1990) Chaos and entropy, *Science as Culture*, Vol 2, Part 2, No. 11.
- Gang, P. (1990) The global-ecocentric paradigm in education, *Holistic Education*, 3 (1), 11-16.
- Gleick, J. (1987) *Chaos - Making a "New Science"*, Cardinal, London.
- Lovelock, J. (1991) *Gaia - The Practical Science of Planetary Medicine*, Allen and Unwin, Sydney.
- Pack, R. (1991) Physics: How do you relate the generation of electricity to the deforestation of the Amazon?, *Educational Technology*, June.
- Prigogine, I., and Stengers, I. (1984) *Order Out of Chaos*, Heinemann, London.
- Rifkin, J. (1989) *Entropy - Into the Greenhouse World*, Bantam Books, New York.
- Buligan, C. K. (1992) *Science/Holistic Curriculum?*, *Orbit*, 23 (2).



ACTIVITIES

OVERVIEW

Introduce the theme of the workshop, "New Science - A New Worldview" and outline the sequence of the workshop. These are set out on OHT 1.

1: Science and you

- Explores participants' experiences of, knowledge about, and attitudes towards science.

2: Science and your worldview

- How modern science has constructed an industrial worldview and how "new science" can reconstruct an ecological worldview.

3: "New science" in practice

- How "new science" concepts can be applied practically in the classroom.

1. SCIENCE AND YOU

A. Warm-up activity - "Two truths and a lie (about science)"

- Give each participant one piece of 'post it' paper.
- Ask all participants to write on the 'post it' two things they believe to be true about science and one thing they believe to be false about science.
- Direct participants to place their 'post its' on the front of their shirt/jumper and mingle with the group. Their task is to read the statements made by others and guess which is the lie.
- Take part in the activity yourself to gauge participants response, discover the nature and range of issues that arise and get to know the group.
- Bring the activity to a close when participants have had an opportunity to talk to most other participants, or after about 10 minutes, depending on the size of the group.

B. Focussing activity

- Distribute a copy of Resource 1 for every two or three participants.
- Working in small groups of two or three direct participants to cut up the worksheet and classify the statements about science in any way they wish.
- Encourage discussion and debate during the task.
- Ask a spokesperson from each group to relate their choice of categories to the whole group.

(The categories chosen are not important in the final analysis - the value of the activity is in the discussion)

2. SCIENCE AND YOUR WORLDVIEW

A. Mini lecture - Modern science and an industrial worldview

These notes and OHTs are sufficient for this mini-lecture. However, facilitators may wish to consult Reading 1 and the other recommended readings.

- Use OHT 2 to introduce the idea that we need to view modern science critically. By looking at the historical development of modern science we can begin to understand its role in shaping our unsustainable industrial worldview.

- Key contributors to the modern scientific paradigm were Bacon, Descartes, and Newton, all 17 century scholars. Plato however, had some influence on their notions of universal truths and absolutes and others, such as Laplace followed in the 18 century, reinforcing their ideas of mechanistic determinism.
- The basis of this paradigm is that the universe was seen as a machine governed by universal and unchanging laws which function in a stable and orderly way that can only be comprehended by scientific intelligence.
- This machine theory developed along with the rise of factory civilisation, where science, technology and mathematics were championed as vehicles of progress. Becoming the new locus of knowledge and value they replaced god as the key to unlocking the mysteries of the universe.
- Use OHT 3. The modern scientific epistemology is characterised by:
 - reductionism (seeing things only in terms of their mechanistic parts);
 - objectivism (claiming science and scientists are objective, neutral and unbiased);
 - determinism (asserting that time is reversible and thus all future events can be accurately predicted); and
 - dualisms of mind/body, subject/object, humans/nature.
- Scientific development was, and largely still is, seen in terms of technological progress with little regard for the social and environmental consequences of this so called advancement. Barry Jones in a recent edition of *21C* writes about the lack of critical perspectives about modern science and draws attention to the inappropriateness of the "more, bigger, faster, better" emphasis, particularly for the Third World. (Revisit OHT 2)

B. Designing consequence wheels

- Ask participants to make small groups and consider the social and environmental consequences of a scientific/technological "advancement". Remind them to consider its effect on various cultures and groups within those cultures.
- Direct participants to illustrate these impacts by designing a consequence wheel. (Use OHT 4 to assist explanation). To begin, place the scientific "advancement" in the centre of a page and circle it. Consider its possible consequences. Draw single lines outwards and write and circle those consequences. Then consider the effects of these consequences. Draw double lines outwards from the first-order consequences and write and circle these second-order consequences. Participants may be able to think of third, fourth and fifth-order consequences.
- OHT 4 is an incomplete example showing the scientific "advancement" (biotechnology), first-order consequence (replace farmers' skills with scientists skills), second-order consequence (encourage monocultural cash cropping) and third-order consequence (decline of subsistence farming). Consequences can be both positive and negative for different people and different places.
- Small groups should have an opportunity to present their ideas to the whole group. If their work was drawn on OHTs, a member from each group could present their work to the whole class. If the group drew their consequence wheel on butcher's paper, and if a change of pace is desirable, the diagrams could be stuck on the wall allowing the class to see them all be circulating around the room. One member of each group should stay with the diagram to answer any questions. This task may be alternated giving each group member an opportunity to see the work of other groups.

- Copies of each groups' work could be photocopied to provide participants with ideas to take away.

C. Mini lecture - "New science" and an ecological worldview

These notes and OHTs are sufficient for this mini-lecture. However, facilitators may wish to consult Reading 1 and the other recommended readings.

- "New science" has been described as the coalition of three developments in theoretical physics namely, thermodynamics, quantum mechanics and chaos theory.
- Key contributors to "new science" are Fourier, Thompson, Planck, Heisenburg, Bohr, Lorenz, Mandelbrot, Prigogine and Srengers.
- The basis of "new science" is that the universe is seen as a complex one in which disorder, diversity, instability and non-linearity are customary.
- It is described as a ecological science which seeks a re-enchantment with nature, and sees the relations between human beings and nature in holistic terms.
- These ideas have developed alongside the rise of postmodern social theory which sees modern reason as inherently repressive.
- Use OHT 5. The development of "new science" has spawned an ecological worldview which is characterised by:
 - holism (seeing all things as inter-connected and the whole being more than the sum of the parts);
 - a recognition that science is subjective and doesn't have all the answers;
 - a belief that time is irreversible and thus we can't predict future events;
 - a recognition of the dynamic nature of the world;
 - a valuing of diversity; and
 - a realisation that resources including energy are finite and running down.

D. Reclassifying statements used in Activity 1B

- Ask participants to rejoin their small group and reconsider the statements about science used in Part 1B, and discuss whether they reflect a modern industrial worldview or a postmodern ecological one. Students may also consider who they think may have made the statements.
- After 5-10 minutes, distribute Resource 2 which describes where the statements originate from.
- Provide a couple of minutes for participants to make comments if they wish.

3. "NEW SCIENCE" IN PRACTICE

A. Using concept maps and action research

- Again in small groups, ask participants to choose a topic or area of study commonly taught in science and consider how they could incorporate into that topic the ideas and concepts embodied in "new science".
- Use concept mapping as a means of expressing these ideas. An example of a concept map is provided as OHT 6. Copies of this can be made for all participants to give them ideas when they are designing units of work.

B. A teaching unit framework

- The action research model (Resource 3) could be used as a framework to plan a unit of work based around a social or environmental issue or problem stemming from the introduction of a scientific "advancement".
- Ask participants to work in small groups to :
 - select a social or environmental issue or problem stemming from a scientific "achievement";
 - describe how they normally teach/would teach a unit on this topic; and
 - evaluate the action research model in Resource 3 as an alternative framework for this teaching unit.

C. Putting it into practice - a reflection and planning session

- Working individually or in small groups ask the participants to reflect upon their workshop explorations and direct them to list what, if any, impact these concepts may have on their treatment of content and process in science education. Use Resource 4.
- Ask participants to write a brief paragraph or draw a diagram that represents their personal response to the challenges and message of "new science".
- Ask members of the group to share their responses with others.



OHT 1

OVERVIEW OF WORKSHOP

Overview

- Science and you
- Science and your world view
- "New science" in practice

OHT 2

QUOTATION BY BARRY JONES

The history of science has been very badly taught at school (if at all). It is seen as a steady, single-minded pursuit of truth - as a linear projection based on gradual accumulation of knowledge. But science does not grow by accumulation. Much great science is demolitionist, destroying the accumulated wisdom of the past ... Value and belief systems have been deeply involved in paradigm shifts ... The dogma of technological progressivism with its emphasis on "move", "bigger", "faster" has some repellent sides, has alienated the young and is not a feasible model for the Third World.

Source: Barry Jones, 21C, Summer, 1991/92



OHT 3

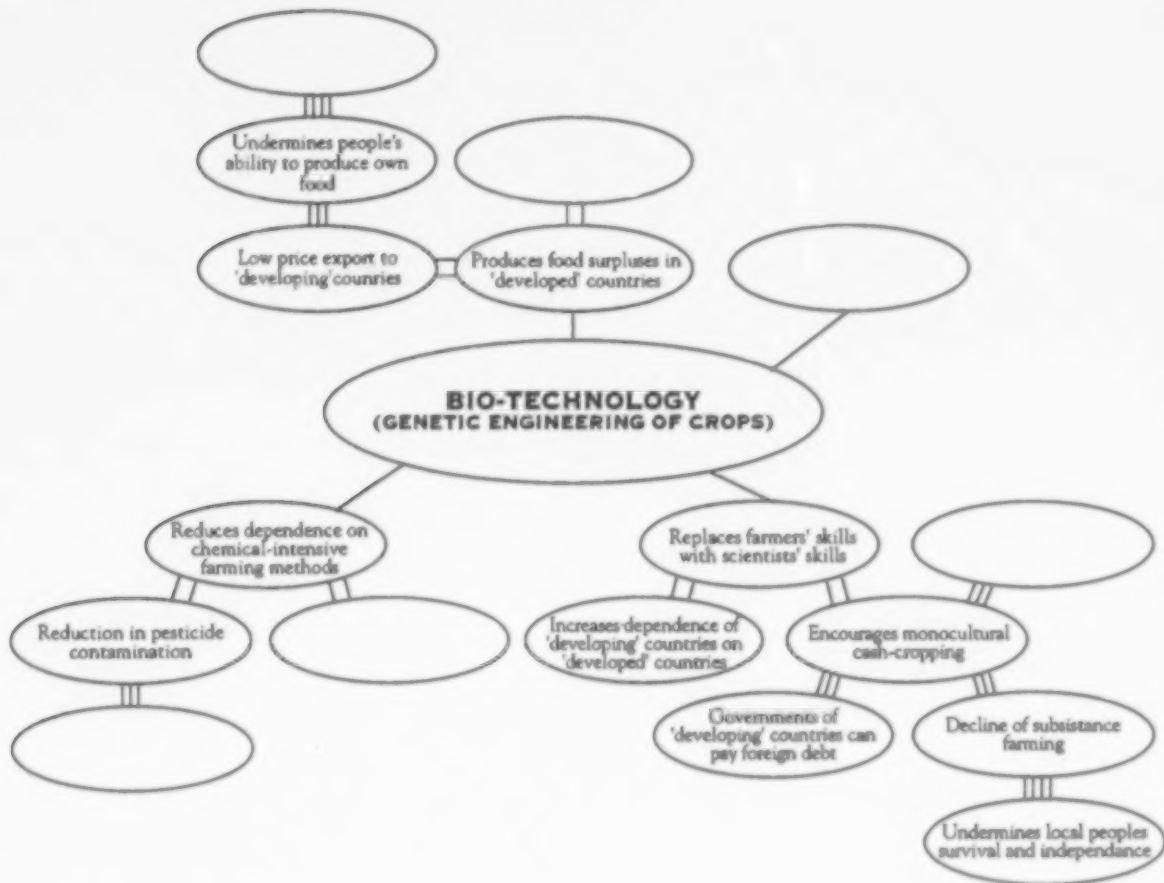
THE MODERN SCIENTIFIC PARADIGM

The modern scientific epistemology is characterised by:

- reductionism (seeing things only in terms of their mechanistic parts)
- objectivism (claiming science and scientists are objective, neutral and unbiased)
- determinism (asserting that time is reversible and thus all future events can be accurately predicted)
- dualisms of mind/body, subject/object, humans/nature

OHT 4

SAMPLE CONSEQUENCE WHEEL



"By treating nature as a profit machine of ever-increasing efficiency, agriculture has encountered severe ecological limits in sustaining that project."

Source: Editorial, *Science as Culture*, 2(1) No 13, 1991.



OHT 5

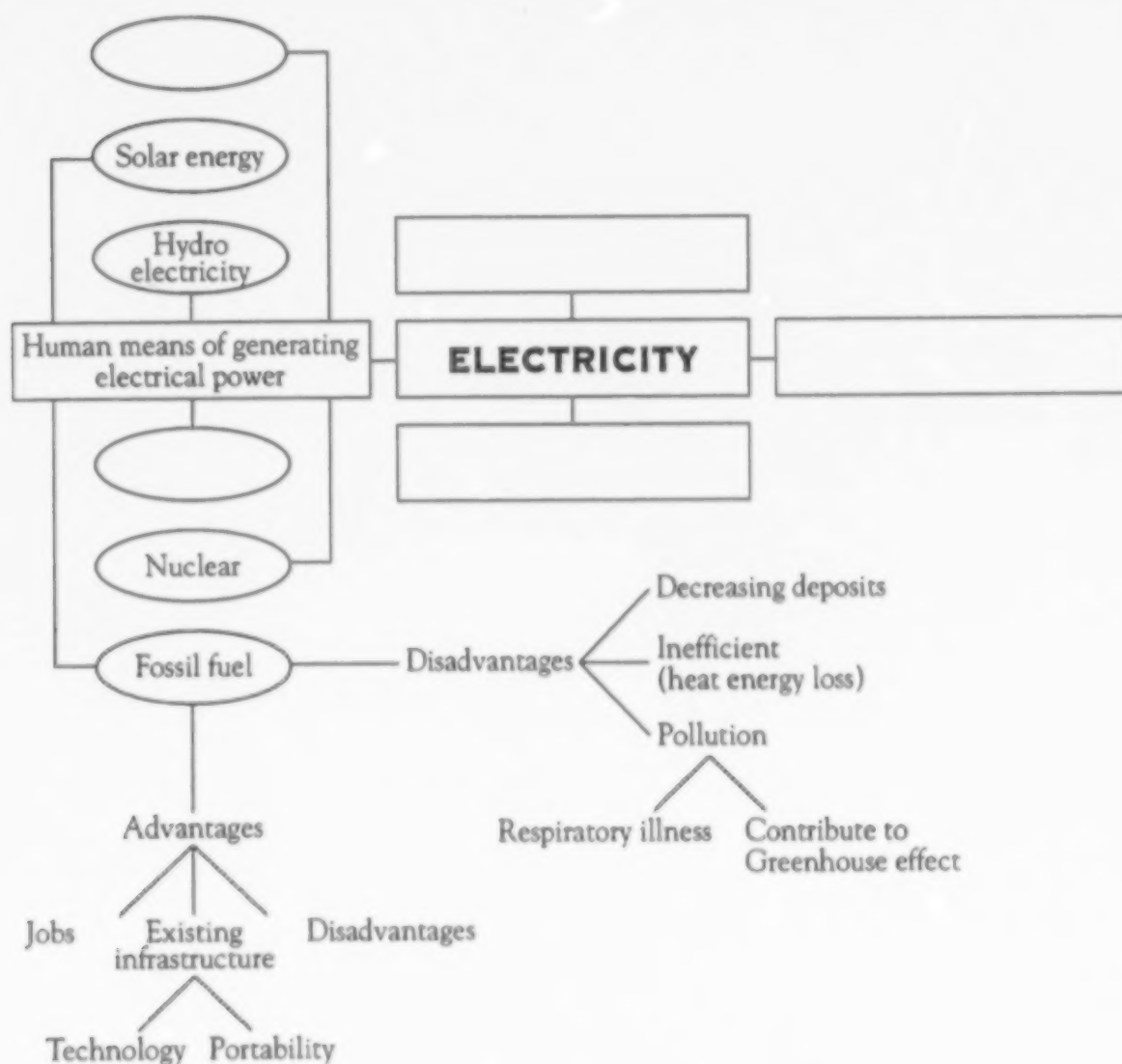
THE NEW SCIENTIFIC PARADIGM

The development of “new science” has spawned an ecological worldview which is characterised by:

- holism (seeing all things as inter-connected and the whole being more than the sum of the parts)
- a recognition that science is subjective and doesn't have all the answers
- a belief that time is irreversible and thus we can't predict future events
- a recognition of the dynamic nature of the world
- a valuing of diversity
- a realisation that resources including energy are finite and running down

OHT 6

SAMPLE CONCEPT MAP



The emerging energy crisis and global warming trend represent the greatest challenge to the survival of our species in recorded history. To effectively meet that challenge, the human race will need to develop a new world view that takes into account the underlying tenets of the laws of thermodynamics and especially the Entropy Law.

Source: J. Rifkin (1989) *Entropy - Into the Greenhouse World*, Bantam Books, New York.



RESOURCE 1

STATEMENTS ABOUT SCIENCE AND SCIENCE EDUCATION

A

There is uncertainty. There always is about science. That's the whole point. No scientist of any standing will claim to be privy to absolute truth. The very concept is unscientific.

B

It is also part of the human condition to use knowledge to gain control. Knowledge of physics has led to developments in technology, some of which have had a profound impact on our social structures.

C

The real and legitimate goal of the sciences is the endowment of human life with new invention and riches.

D

Science, at best is on the periphery in our corporate culture, and is not yet part of our public or political culture.

E

In community debate, science can help explain the implications of proposed courses of action and help the nation get onto the path of sustainable development.

F

I am not saying that we do not need organised science; only that we need to recognise its frailty as a human condition, that it is slow, and its record in handling immediate and environmental problems is far from good. It tends to do only those things that scientists find easy to do and want to do anyway.

G

Science is the literature of truth.

H

Thinkers of the 18th and 19th centuries thought that science could save us, but not many people think that way now.

I

It [science] is also indirectly responsible, through the application of its findings, for generating much of the material wealth and for providing most of the employment which preserves our way of life.

J

Most citizens of the developed world are deluded by the belief that pouring money on science is the way to get results.

K

Science knows only one commandment: contribute to science.

L

Our scientific power has outrun our spiritual power. We have guided missiles and misguided men.

RESOURCE 2

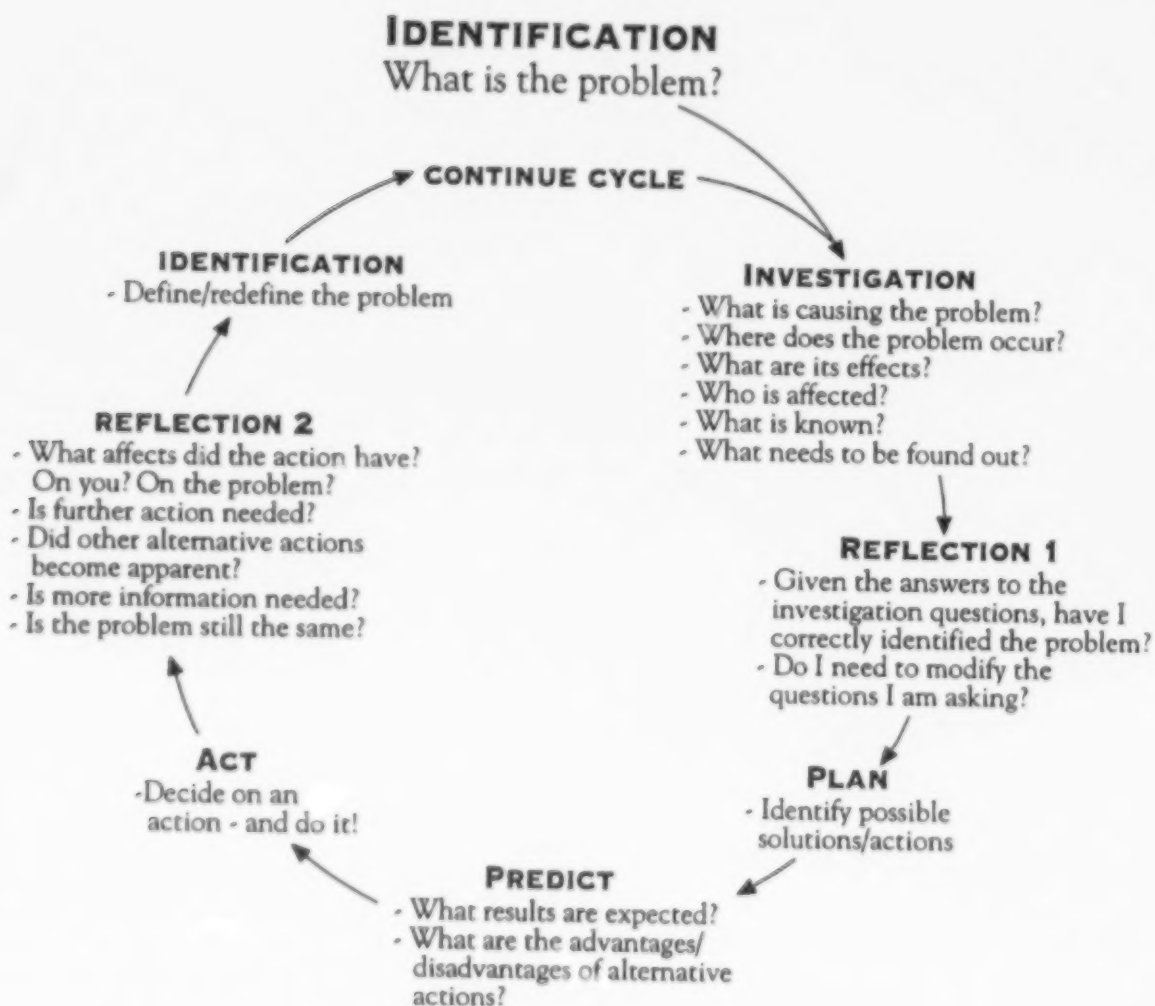
ORIGINS OF STATEMENTS ON RESOURCE 1

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RESOURCE 3

ACTION RESEARCH MODEL



RESOURCE 4

REFLECTIONS ON THE IMPLICATIONS OF "NEW SCIENCE" AND MY TEACHING PRACTISE

Implications for treatment of content	Implications for my teaching practise

Reflections on the implications of "new science" for my personal life (eg use of resources)

READING 1

A NEW ALLIANCE

KATHLEEN GORDON

A brief look at the emergence of "new" science and its contribution to an ecological worldview

In recent years the emergence of "new science" has become apparent with the publication of numerous articles and books and the appearance of many conferences and programs on the topic. Such is the interest in the nature of "new science" that these new developments have been reported not just for scientists but popularised thus reaching a wider audience. Coined the "new science" by Prigogine and Stengers in their revolutionary book, *Order out of Chaos*, this trend is often referred to as postmodern science. Advocates of this view of science see modernity as "...an historical era of wanton destruction", (Best 1991, p. 189) and view postmodernism as "...a historical period yet to be created - where human beings exist in harmonious relations with nature, each other and their own selves" (Best 1991, p. 189). The extent to which this "new science" can contribute to this notion of caring for the earth, each other and ourselves - the basis of environmental education - is problematic. However the question warrants exploration, not in the least because "new science" may well prove to be an influential ally. One which the environmental education movement may do well to enlist in order to gain broader acceptance and support to achieve its goals.

The nature of the "new science" or postmodern science is such that it rejects modernism, seeing its expression in science as inherently repressive. Breaking from the mechanistic, objectivistic and deterministic world view of modern science, "new science" has been defined as an ecological science, viewing nature, people and their relationships in an holistic manner (Prigogine and Stengers 1984). This rejection of modernism is the basis of both postmodern science and postmodern social theory, with social theorists describing the modern rationalisation process as "... a juggernaut of domination" (Best 1991, p. 188). It is this bringing together of scientific and social theory - physics and philosophy, chemistry and history - that is one of the most exciting

aspects of postmodernism. The French title of Prigogine and Stengers' *Order Out of Chaos - La Nouvelle Alliance* - demonstrates the importance that this Nobel award winning physicist and his co-author, a chemist and philosopher, place on this partnership.

This move towards holism, now being attempted in western traditions, is being assisted by the new discourse between postmodern science and social theory. Proponents of holistic education view this movement "...from the mechanistic industrial age to a global, ecological age... as part of a larger transformation in western civilisation" (Gang 1990, p. 11). This transformation is vital, for as Griffin (in Best 1991, p. 188) says, "The continuation of modernity threatens the very survival of life on our planet." The transformation of science in this context is particularly vital as modern science has perhaps been most guilty of reductionism - the very antithesis of holism (Toffler in Prigogine and Stengers 1984).

Although shaped by many scientific and social influences, postmodern science has emerged largely as the result of three major developments in the field of physics. These developments in thermodynamics, quantum mechanics and chaos theory have debunked modern scientific epistemology by systematically discrediting the basis upon which that world view was built. Not only are Descartes and Newton unfashionable, but their theories which have shaped and dominated our industrial world view have been proven to be false, by the very science that embraced their ideas - physics. A brief historical overview of these developments demonstrate that these changes have been a long time in coming.

In 1811 Fourier advanced what later became known as the first law of thermodynamics, which stated that energy can not be created or destroyed but moves from available to unavailable states. His research, which won him acclaim at the time, rejected two long held Newtonian concepts. His thesis maintained that systems were dynamic not passive, and that time was

irreversible rather than reversible (Prigogine and Stengers 1984). These developments were augmented 41 years later by Thompson whose research supported Fourier's findings and went on to suggest that energy was increasingly being lost from systems. This notion of energy loss became known as the second law of thermodynamics, although it is also referred to the law of entropy (Best 1991). Both laws of thermodynamics can be stated in one sentence. "The total energy content of the universe is constant and the total entropy is continually increasing" (Asimov in Rifkin 1989, p. 47). These concepts have gained wide acceptance in the scientific community. Of entropy, Lovelock (1991, p. 31) has said, "...These laws [thermodynamics] rule the whole of our universe, and Gaia has had to evolve within their restrictive boundaries." However the last word on entropy, for now at least, belongs to the genius of Albert Einstein, who said:

...A theory is more impressive the greater is the simplicity of its premises, the more different are the kinds of things it relates and the more extended its range of applicability....It [thermodynamics] is the only physical theory of universal content which I am convinced, that within the framework of applicability of its basic concepts will never be overthrown.
(Einstein in Rifkin 1989, p. 59)

The next development which cast doubt on Newtonian physics was the rise of quantum mechanics which proved that some of Newton's theories don't work at all in the microscopic world. It was in 1900 that Planck discovered that the energy of heat radiation moves in abrupt discontinuous bursts (quanta), rather than the smooth continuous flow characterised by Newton or Descartes' clockwork world (Gang 1990). However, perhaps quantum mechanics greatest contribution to the debunking of modern science is its rejection of objectivity and so called scientific detachment. Heisenburg and Bohr both maintain that within the microscopic world of quantum mechanics, matter can't be isolated, precisely identified or predicted as they really are. This is because "...in the process of perceiving and analysing sub-atomic particles, the scientist unavoidably influences their behaviour through the use of measuring instruments" (Best 1991, p. 197).

Whereas quantum mechanics exerts its influence in the microscopic world, chaos theory, the third component of the "new science" extends into the macroscopic world and to physical processes in general. Emerging in

the 1970s chaos theory itself has three concepts which together form the basis of "new science"'s most recent and popular treatise. The first of these is Lorenz's strange attractors, otherwise known as the butterfly effect. A meteorologist and mathematician, Lorenz showed that apparently deterministic systems could be unpredictable and chaotic by demonstrating the randomness of weather patterns (Gleick 1989). Like much of chaos theory this concept has found many wider applications.

Mandelbrot's concept of fractals, perhaps the most visually spectacular of the three, has created a new geometry of nature. This computer generated artform presented mathematicians with a puzzling paradox. The Mandelbrot set is, according to its admirers, the most complex object in mathematics yet it can be reproduced using the simplest descriptions (Gleick 1989). Emerging from this work, amongst others, was the idea that complex systems give rise to simple behaviour and conversely that simple systems give rise to complex behaviour.

Prigogine and Stengers' concept of dissipative structures completes the trilogy of chaotic principles. These structures, which arise out of fluctuations within systems, are called dissipative because they require more energy to sustain themselves than the simpler structures they replace (Toffler in Prigogine and Stengers 1984). This notion is controversial for a number of reasons, not the least of which is because it suggests that order can arise spontaneously out of random movement.

Each of these chaotic concepts propose that reality is dynamic, complex, random and unpredictable and have successfully represented these ideas with the assistance of remarkable, colourful computer generated images. To create these images programs using complex non-linear equations have been devised in attempts to construct mathematical models of real systems in order to explain how they work.

But how does all this relate to environmental education and how can it assist in the achievement of environmental education goals? It may be useful at this stage to describe what the goals of environmental education are. According to Greenall (1987, p. 15), the aims of environmental education are:

- to help participants acquire an awareness of and sensitivity to the total environment;

- to help participants develop a basic understanding of the total environment and the interrelationships of man(sic) and the environment;
- to help participants develop the skills necessary for investigating the total environment and for identifying and solving environmental problems;
- to help participants acquire social values and strong feelings of concern for the environment;
- to help participants acquire the motivation for actively participating in environmental improvement and protection;
- to help participants identify alternative approaches and make informed decisions about the environment based on ecological, political, economic, social and aesthetic factors; and
- to provide participants with opportunities to be actively involved at all levels in working towards the resolution of environmental problems.

Only some of these aims address education for the environment, which is arguably the only time 'real' environmental education takes place (Curriculum Development Centre 1981; Fien 1988). The last four aims listed by Greenall contribute to education for the environment as they deal with values education, environmental problem solving and decision making and taking environmental action. So then, to what extent can postmodern science contribute to these?

Briefly its contribution to values education, problem solving and environmental action lies in its questioning and rejection of modern industrial values and beliefs in favour of postmodern ecological ones. These ecological values together with key concepts of environmental education (Meadows 1989), strengthen the moral and intellectual foundation of environmental education.

Paradoxically the strength of postmodern science's contribution to environmental education lies in the high status that science has enjoyed for so long in western societies. Many people are only willing to accept ideas if they can be proven scientifically, even though "new science" says, we can't possibly know everything and as Meadows' (1989, p. 10) adds, "...we don't even understand how much we don't understand."

The role of science in shaping the modern world view has been substantial. Modern physics preached a doctrine of domination, supremacy and progress at any cost. "new science" has disproved many of the precepts of modern science so if science still has status in our society it should assist in shaping the new world view. Beliefs emerging from postmodern science advocate making fundamental changes in the modern value base, which includes transforming prevailing concepts and replacing inappropriate processes. For example "new science" asserts that:

- things should be viewed holistically;
- diversity is desirable;
- resources are finite;
- energy is running down;
- time is irreversible;
- the world is dynamic;
- science is subjective rather than objective; and
- science doesn't have all the answers.

The synthesis of these ideas can be expressed as action we must take to transform the way we view the world in order to save it and its inhabitants. Rifkin (1989, p. 293) says:

The emerging energy crisis and global warming trend represent the greatest challenge to the survival of our species in recorded history. To effectively meet that challenge, the human race will need to develop a new world view that takes into account the underlying tenets of the laws of thermodynamics and especially the Entropy law.

What postmodern science does not address very well are the social implications of the theory. Perhaps that is being left to postmodern social theorists! Rifkin however makes some attempt to fashion links and does so by advocating local diversity, decentralisation, downsizing, regional self-sufficiency, and redistribution of wealth. Unfortunately he does not provide any blueprint for this transformation, except to say that governments must provide incentives for change. Class and the growing underclass is not mentioned at all in his thesis nor does it feature in Toffler's (1980) work, though at least he advances the notion that individuals must work together for structural change. Of this transition he says;

...we should not think of a single massive reorganisation or of a single revolutionary, cataclysmic change imposed from the top, but of thousands of conscious, decentralised experiments that permits us to test new models of political decision making at local and regional levels in advance of their application to the national and transnational levels.
(Toffler 1980, p. 453)

This advice is heartening to those seeking to educate for the environment, a fairer future, a better world for all, a healthy planet and a healthy people. It helps us believe that although the transition from the modern scientific paradigm to the new ecological one is problematic it is also do-able and we have no choice but to believe that this is so.

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ANALYSING EDUCATIONAL RESOURCES

ZITA UNGER

INTRODUCTION

Development and environment issues are often controversial as they reflect the operation of conflicting viewpoints and ideologies. The resources used for teaching about such issues are embedded with the same range of ideologies and potential for controversy.

This workshop develops strategies for evaluating text based content to assist in the selection and utilisation of materials and resources for classroom use.

An opportunity is provided to engage in evaluation issues through critical readings, an introduction to the ERDEE (Evaluation of Resources in Development and Environmental Education) Instrument, and an evaluation activity which applies the instrument to a classroom situation.

The workshop is designed to be challenging, yet provide practical support and guidelines for decisions about classroom resources.

OUTCOMES

The aims of the workshop are to:

- develop strategies of analysis for evaluating text based content; and
- assist in the selection and utilisation of materials and resources for classroom use in the interests of environmental and development education.

At the end of this session, participants will be able to:

- describe four dimensions of evaluation;
- select criteria for the evaluation of resources; and
- rate resources using an evaluation instrument

WORKSHOP OUTLINE

There are three components to this workshop.

The first component is a series of group discussion/reporting activities which introduce participants to the notion of theory - its meaning, importance and uses

and to types of theory. This is done in a practical way using a cartoon and an advertisement.

The second component focuses on the importance of materials evaluation and the need for sound criteria. The ERDEE (Evaluation of Resources in Development and Environmental Education) Instrument is introduced, the concept of "balance" critiqued, and the controversy over the Social Evaluation Materials Project (SEMP) outlined.

The third component provides opportunities to use the ERDEE Instrument to analyse some Social Education Materials Project (SEMP) resources on urbanism and a classroom activity on "big dam" projects.

MATERIALS REQUIRED OVERHEAD TRANSPARENCY MASTERS

- OHT 1: Aims and Objectives
- OHT 2: Ideas as Theory
- OHT 3: Use of Theory
- OHT 4: Dimensions of Resource Evaluation
- OHT 5: Criteria for Resource Evaluation
- OHT 6: On Balance
- OHT 7: Evaluation of SEMP Urbanism Materials

RESOURCES

- Resource 1: The Notion of Theory
- Resource 2: *Which Office Is Greener?*
- Resource 3: *Kelly Under Fire Over Kit*
- Resource 4: Criteria for Evaluating Resources
- Resource 5: ERDEE Instrument
- Resource 6: *A City Is ... Where The Action Is*
- Resource 7: *A City Is ... Past Present Future*
- Resource 8: *Walls of Water*

READINGS

- Reading 1: Introduction to SEMP
- Reading 2: On Balance
- Reading 3: Commentary on "A City Is ... Where The Action Is"
- Reading 4: Commentary on "A City Is ... Past Present Future"

ACKNOWLEDGMENTS

Grateful acknowledgment is made to the following for permission to reprint materials used in this workshop:

John Fairfax Group Pty Ltd for Resources 1 and 3.

Canon Australia Pty Ltd for Resource 2.

Curriculum Corporation for Resources 6 and 7. Australian Geography Teachers Association Inc and *New Internationalist* for Resource 8.

ACTIVITIES

1. INTRODUCTION TO NOTION OF THEORY

A. Overview of workshop

- Use OHT 1 to introduce the aims and objectives of the workshop.

B. The notion of theory

- Form groups which will report back to main group. Each group will organise a rotating spokesperson for each activity. The facilitator asks that group members introduce themselves to each other before commencing with the activity.
- Distribute Resource 1, a cartoon and set of questions, to each group. Allow 5-10 minutes of discussion, and then ask each group to report its findings.

C. Types of theory

- Debrief answers from the previous activity focussing especially on the groups' three examples of theory that applied to their area of teaching.
- Display OHT 2, "*Ideas As Theory*", and keep displayed, as group as a whole discusses these questions:
 - Did you identify:
 - theories *about* your subject area?
 - theories *in* your subject area?
 - struggles *over* your subject area?
 - Do your group members agree with you?
- Ask groups to classify the type of theory they identified. After a few minutes, each group reports its findings. Comment encouraged.
- In the follow-up discussion, note that there is no 'right' way to distinguish ideas as theory. One might consider the following:
 - Theories *about* environmental and development education = *How* to teach.
 - Goals of environmental and development education
 - Methods for environmental and development education
 - Theories in environmental education = *What* to teach.
 - Theories of the environment
 - Theories of development
 - *How* social and natural systems work
 - Struggles *over* environmental and development education = *Who* decides?
 - What *priorities* for environmental and development education?

Many responses are possible. It is enough that distinctions are made that are consistent and defensible. Some feature belong to more than one category: For example, "What is environmental education?" can constitute both a theory about environmental education and a struggle to define environmental education.

D. The use of theory

- Use OHT 3 to explain the 3 uses of theory:
 - as a commodity
 - as an instrument or tool for understanding
 - as an appropriation of ideas
- Distribute a copy of Resource 2 (*Which Office is Greener?*) to each group. Ask participants to discuss the questions and prepare a group report.

E. Analysis of types of theory

- Distribute the newscutting, *Kelly under Fire over Kit*, to groups. Ask them to read it.
- Revise OHT 2 on "Ideas As Theory".
- Explain that the 1992 World Environment Day kit was controversial as farmers' groups objected to the way their land management practices were portrayed.
- Ask groups to complete the questions on Resource 3 and hear group reports.
- Lead a group discussion on the issues raised in these questions and their answers.
- *Note to Facilitator:* This controversy represents an example of the struggle over environmental education. However, depending on how distinctions were made in Activity 1C, other responses are possible. Especially note that the struggle over who decides carries an understanding about what environmental education ought to be.

Farmers would probably be provoked by some of the language in the kit (such as animals "packed" into pens that can "hardly move") although they ought to also acknowledge problems they must deal with, such as algae growth, soil salinity, soil acidity, erosion, and absence of natural enemies to pests.

This activity should lead to the notion that 1) theory is political, and 2) that theory has a context of use in which it takes on meaning.

- Draw a parallel between the trouble over the World Environment Day kit and the trouble over the Social Education Materials Project (SEMP) in the 1970s. After public controversy led by small but powerful conservative lobby groups, one kit from this project was withdrawn from use in all Queensland government schools. Mention that the readings in later activities will be based on the urbanism kit from that social education project. Mention also the irony that the bitter political struggle over the SEMP kit was in contrast with its politically diluted character as a text.

2. INTRODUCTION TO MATERIALS EVALUATION

A. Mini-lecture

Present a mini-lecture to introduce the process of materials evaluation and the SEMP case study to be used. Make the following point:

- When teachers select resources for classroom use there are a whole range of issues and concepts they need to consider. Such as:
 - whether content is of a racist or sexist nature
 - whether content provides balanced opinion
 - whether content provides for a range of points of view
 - whether content supports ecological and environmental issues.

This workshop attempts to provide a basis for selecting materials for classroom use. The issue of racist or sexist nature is well covered elsewhere. Also, their recognition is a little more obvious than issues about bias and balance. However, even a "good" text or resource, without obvious and glaring bias and stereotypes, can be narrow and undermine principles of environmental and development education.

- Outline the need for a materials evaluation instrument and how the following activities will give participants an opportunity to:
 - understand the major dimensions of evaluation;
 - understand criteria for these dimensions;
 - rate a resource, using evaluation instrument and critical readings; and
 - rate a resource, using evaluation instrument.
- Introduce SEMP, the subject of the critical readings, as the case study materials to be used in these activities. Refer to Reading 1, *An Introduction to SEMP*, for details to present to the group.

3. CRITERIA FOR AN EVALUATION INSTRUMENT

A. Dimensions and criteria for evaluation

- Display OHT 4 to outline the four dimensions of resource evaluation to be used. Restate the objectives for each dimension.
- Display OHT 5 (Resource 4 is a copy for participants) to explain how the four dimensions may be used to derive criteria for resource evaluation.
Discuss the criteria for each dimension.

B. The ERDEE Instrument

- Distribute Resource 5 which is the evaluation instrument to be used in this workshop.
- Ask participants to read carefully and individually to select one criterion from each dimension (knowledge, critical skills, values, attitudes) which is most relevant to their area of teaching, background and interests.
- Ask participants to explain their individual choice to other members of their groups.
- Group reports to the whole group on the criteria that were the most commonly selected and those most neglected. Seek an explanation for any patterns.

4. THE CONCEPT OF BALANCE

- Ask participants to comment on the notion of balance in educational material, e.g. a definition, its importance, criteria etc.
- Reading 2 is a short paper that explores aspects of the concept of "balance". The SEMP urbanism kit, *People and the City* (which provides the extracts for the following activity which gives participants an opportunity to trial the evaluation instrument) is used as a basis for this paper.
- Use the major headings in Reading 2 (outlined on OHT 6) as the basis for a mini-lecture on the problematic nature of "balance" in evaluating educational materials.
- Ask participants whether their earlier views on the importance of, and criteria for, balance need to be revised.

5. EVALUATION OF SEMP URBANISM MATERIALS

This activity is based upon extracts from the SEMP urbanism kit, *People and the City*. Divide participants into small groups with each group given one of the two extracts (Resources 6 or 7) for evaluation. Each group is also given a commentary on its extract.

The groups will require:

Material: A City is ... Where the Action Is

- Resource 5: ERDEE Instrument
- Resource 6: A City is ... Where the Action Is
- Reading 3: A City is ... Where the Action Is

Material: A City is ... Past, Present, Future

- Resource 5: ERDEE Instrument
- Resource 7: A City is ... Past Present Future
- Reading 4: Past Present Future

Explain to the groups that they need to read the resources and the commentary and that they then have two tasks (OHT 7):

- Attempt a rapid assessment of the *broadsheet*, using the critical skills dimension of evaluation instrument, and
- Answer three questions on the commentary:
 1. What are the *main issues*?
 2. What *criticisms* are made about the broadsheets?
 3. Which criteria from the evaluation instrument are addressed?

6. EVALUATION EXERCISE

This activity gives participants experience in selecting relevant criteria from the ERDEE Instrument (Resource 5) to apply to a particular activity - a classroom exercise on the effects of "big dam" projects (Resource 8).

- Distribute Resource 8, *Walls of Water*, and ask participants to read the lead story, the graphic and the student questions.
- As individuals (pairs or groups), ask participants to examine the ERDEE Instrument and to choose the two (2) criteria they believe the activity should address.
- Ask participants to use these two criteria to evaluate the materials and student questions in Resource 8.
- Invite discussion on the evaluation results.
- Facilitators notes:
 - Clearly a variety of answers are possible depending on the criteria that were used. The group reporting method should yield a rich assortment of views.
 - Seek particular comment on Questions 6, 7 and 8, especially the manner in which they sought to address the issue of balance and classroom decision making over solutions to controversial issues.

- Ask participants to consider whether Question 8 is a poor one because:
 - i) putting a solution to a class vote, and
 - ii) representing the activity of the UN by a class vote
 are politically ineffective ways of dealing with solutions as they fail to conscientise participants to the sources and levels of power and influence exercised by different groups.
- This shows:
 - i) that the issue of balance is a delicate one, and
 - ii) that a politically complex theme and activity can be undermined by the politically naive and simplistic response of "voting like the United Nations" on a "solution".

7. CONCLUSION

- Review the workshop for participants using the objectives on OHT 1.
- Review the workshop process:
 - The meaning, types and uses of theory
 - The need for materials evaluation
 - Dimensions and criteria for evaluation
 - The ERDEE (Evaluation of Resources in Development and Environmental Education) Instrument
 - The meanings of "balance"
 - Guided application of the ERDEE Instrument supported by commentaries
 - Less-guided application of the ERDEE Instrument
- Follow-up activity: Select a resource (book, kit, video, etc) for use in environmental and development education and evaluate it according to the full ERDEE Instrument.

OHT 1

AIMS AND OBJECTIVES

The aims of this workshop are to:

- develop strategies of analysis for evaluating text based content, and
- assist in the selection and utilisation of materials and resources for classroom use in the interests of environmental and development education.

At the end of this session, you will be able to:

- describe four dimensions of evaluation
- select criteria for the evaluation of resources
- rate resources using an evaluation instrument



OHT 2

IDEAS AS THEORY

Theories *about* environmental and development education

Theories *in* environmental and development education

Struggles *over* environmental and development education

OHT 3

USE OF THEORY

COMMODIFICATION of theory

Ideas are objects or products to consume

INSTRUMENTALITY of theory

Ideas are tools we use to understand the world

APPROPRIATION of theory

Ideas can be transferred to new contexts with different interests



OHT 4

DIMENSIONS OF RESOURCE EVALUATION

KNOWLEDGE

Educational resources should contain essential elements of core environment and development concepts

CRITICAL THINKING SKILLS

Educational resources should help:

- challenge bias
- support rational decision making
- examine solutions and prospects for change

ATTITUDES

Educational resources should help promote understanding and solidarity among all peoples

VALUES

Educational resources should help develop commitment to working with and for others in the interests of equity and sustainability

OHT 5

CRITERIA FOR EVALUATING RESOURCES

Knowledge

Development Issues:

- Sustainable development
- Environment and development
- Rights and development
- Green Aid

Global Perspectives

Critical Thinking Skills

Balance Issues:

- Comprehensiveness
- Stereotyping
- Misrepresentation
- Technology

Interdependence

Decision-making

Problem-solving

Attitudes

Empathy

Respect

Participation

Values

Social Justice

Equality

Ecological Sustainability



OHT 6

ON BALANCE

Mini-lecture Overview

1. The SEMP Urbanism materials
2. What is balance?
3. Balance in the SEMP Urbanism materials
 - 3.1 Depth: How are social structures and processes understood?
 - 3.2 Breadth: Are the materials comprehensive?
 - 3.3 Urban Orientation: What is an urban approach?
4. The "Bias and Balance" discourse

OHT 7

EVALUATION OF SEMP URBANISM MATERIALS

A. Activity on the broadsheet

- Use the “critical skills” dimension and criteria of the ERDEE Instrument (Resource 5) to make a rapid assessment of the broadsheet.

B. Activity on the commentary

1. What are the **main issues**?
2. What **criticisms** are made about the broadsheet?
3. Which **criteria** from the ERDEE instrument (Resource 5) are addressed by the critique?



RESOURCE 1

THE NOTION OF THEORY

Prepare a brief group report on these questions:

1. What are the components of this cartoon? Note people, objects, events, ideas
2. On the cartoon page, write down at least two questions for each of these components. Direct your question with an arrow to the relevant component.
3. What does the cartoon say about "theory"?
4. Do you agree? Could that person in the cartoon be you? Why?
5. Give three examples of how theory applies to your area of teaching.



RESOURCE 2

WHICH OFFICE IS GREENER?

Prepare a brief group report on these questions:

1. How has the advertisement 'appropriated' the discourse of the environment?
2. Does this appropriation 'exploit' the discourse of the environment, or does it show its successful 'penetration'? Why?
3. What does this tell you about theory?



WHICH OFFICE IS GREENER?



Some offices are friendlier to the environment than others.

Some offices have ceramic cups, which you wash and use again, unlike polystyrene cups.

They have people who use fountain pens. When a pen runs dry, it's not thrown away, it's refilled.

They have better insulation, so they need less energy to stay warm or cool.

They have a special bin for waste paper, which can be recycled.

And they have a Canon copier.

What makes Canon environmentally friendly?

For a start, all our copiers are capable of using recycled paper. Unlike some copiers, they can use it for both single and double-sided copying.

Our personal copiers and laser printers have replaceable cartridges, which makes them maintenance-free. What's more, they're totally recyclable.

And every time a cartridge is returned to us for recycling, Canon donates a dollar to the environmental group, Earthwatch.

This is part of our Clean Earth campaign, launched in April last year, which in turn is part of Canon's three R philosophy: reduce, reuse, recycle.

Our copiers have filters to cut down ozone pollution to well below acceptable levels.

Their drums have non-toxic coatings for safer handling and disposal, and the aluminium in them is recyclable.

Their toner is non-carcinogenic, which makes it a great deal safer for people and the environment.

Why, even the wasted silicon oil from a Canon copier is refined, filtered and bottled.

Impressed? We aren't. It's still not enough.

So we're developing solar cells as a cleaner energy source for the future, and new copiers which can be entirely recycled.

The challenge is to stop polluting and destroying the environment. As we hope we've proved, Canon is rising to it.

And the greener office (it's on the right, of course) is just a start.

Canon
THE BIG GUN IN COPIERS

BEST COPY AVAILABLE



RESOURCE 3

KELLY UNDER FIRE OVER KIT

Prepare a brief group report on these questions:

1. Give an example of how the article, *Kelly under Fire over Kit*, refers to:
 - Theories about environmental education?
 - Theories in environmental education?
 - Struggles over environmental education?
2. Look at the illustration.
 - Does the illustration suggest that all farmers are destroying the environment?
 - Where might farmers agree? Where might farmers be provoked?
3. What does this controversy tell you about the role and power of 'theory'?

Kelly under fire over kit

By AMANDA HEADE

CANBERRA: The Minister for the Environment, Mrs Kelly, has refused to accept responsibility for a bungle in her department involving an information kit which portrays farmers as destructive polluters of the environment.

Mrs Kelly yesterday withdrew her support for the kit commissioned by her department - the Department of the Arts, Sport, the Environment and Tourism - to teach schoolchildren about World Environment Day.

Earlier she had endorsed the kit in a radio interview on the ABC.

In it she had defended the section on land management against the allegations of imbalance levelled by the Deputy Leader of the Opposition, Mr Bruce Lloyd.

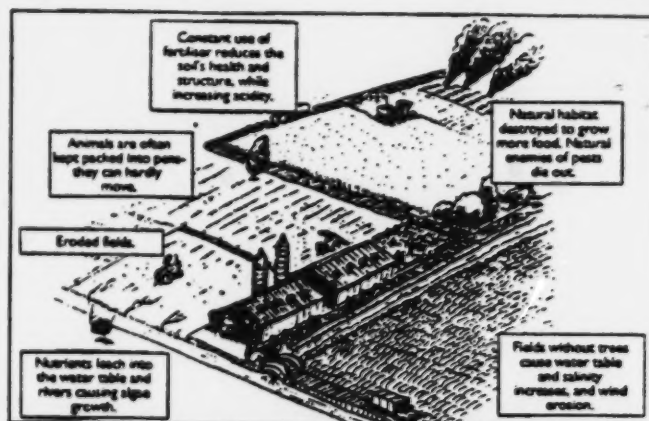
"All I'm doing in this document is highlighting that an international environmental problem is land degradation," Mrs Kelly said.

Mr Lloyd had said that the kit was "a deplorable attack on Australia's farming community".

"In my 20 years in Parliament, I have never seen such an unbalanced, misleading and divisive document as that sanctioned by the minister," he said.

The kit failed to mention farmers' efforts in recent years to improve the environment and to take part in the Government's Landcare program.

Mrs Kelly also came under heavy fire from the Opposition during Question Time as she failed to explain to Parliament why she



A controversial illustration from the environment kit.

endorsed a kit that she later said was unbalanced and inaccurate.

Her explanation, that she had endorsed the kit's cover but not its contents, caused uproar in the House.

The kits - 5,000 of which have already been distributed to 12,000 schools across the country at a cost of \$50,000 - carries Mrs Kelly's smiling face on the cover.

It has a letter signed by Mrs Kelly which reads in part: "I am confident that this kit will provide an excellent environmental resource, particularly in the lead-up to the Earth Summit and World Environment Day 1992."

After the radio interview on Wednesday, Mrs Kelly was telephoned by the Minister for Primary Industry, Mr Crean, who told her the National Farmers'

Federation was angry over the what they saw as insulting material in the land management section.

Only then did Mrs Kelly withdraw her endorsement and inform the Opposition she had done so.

Mrs Kelly attended a function in Parliament House yesterday where she was supposed to have endorsed the kit; instead, she gave certificates to school students.

She told reporters there: "I do not accept responsibility for a document that I didn't even see, let alone approve."

"The fact of the matter is, the department made a mistake. The department did not check it even at senior levels."

She said she was not to blame for the offensive material contained in the kit, because at no time had she approved it.

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RESOURCE 4

CRITERIA FOR EVALUATING RESOURCES

Knowledge

Development Issues:

- Sustainable development
- Environment and development
- Rights and development
- Green Aid

Global Perspectives

Critical Thinking Skills

Balance Issues:

- Comprehensiveness
- Stereotyping
- Misrepresentation
- Technology

Interdependence

Decision-making

Problem-solving

Attitudes

Empathy

Respect

Participation

Values

Social Justice

Equality

Ecological Sustainability

RESOURCE 5

THE ERDEE INSTRUMENT: EVALUATION OF RESOURCES IN DEVELOPMENT AND ENVIRONMENTAL EDUCATION

Resource: _____

- Rate As:
- "1" MEETS criterion
 - "2" SOME attention to criterion
 - "3" NO attention to criterion

KNOWLEDGE CRITERIA	Rating
Resources should contain essential elements of core concepts	
Development Issues • Sustainable Development Presents the need for balance between economic growth and social development in the interests of sustainable development and overcoming of poverty and social injustice.	
• Environment And Development Presents the importance of ecological balance against the effects of environmental destruction and the need to balance economic growth and conservation through a process of sustainable development. Presents the importance of biodiversity and sustainability.	
• Rights And Development Presents individual rights and responsibilities as citizens of local, national and global communities. Supports the need to eliminate discrimination and other threats to human rights from various sources. Presents the rights of all species as essential for biodiversity and sustainability.	
• Green Aid Presents aid projects that promote economic development in an environmentally responsible manner. Presents benefits to both donors and recipients.	
Global Perspective Presents the interdependence of global economic, social and political systems. A selected global perspective reflects the principles of economic justice, human rights, sustainable development and peace.	

Overall: _____

CRITICAL SKILLS CRITERIA Resources should help participants challenge bias, support rational decision making, examine solutions and prospects for change	Rating
Balance Issues • Comprehensiveness Includes a range of social-cultural viewpoints. Sensitive to explanations of social structure. Can distinguish between description and explanation.	
• Stereotyping Presents a range of roles and human characteristics for any group. In-depth portrayals of sub-groups include accurate presentations of the group culture, from the point of view of that group. Sub-groups portrayed as active participants in their community in a variety of decision making situations.	
• Misrepresentation and Validity Does not present unsubstantiated 'factual' claims as 'truths'. Sources are verifiable, accurate and up-to-date. Does not include misleading implications.	
• Technology Does not imply that the world's major problems can be solved by further development of industry and technology. Identifies technology as part of the technical-social complex of productive forces. Technological solutions to social issues are seen in their political, economic and social context.	
Interdependence Presents an issue in its connection with the wider ecological, economic, political and social environment. Presents individuals and communities as linked.	
Decision-Making Presents conditions for rational decision-making method. Emphasises inquiry process of hypothesis and generalisation, cooperative learning, critical reflection, dissemination, and involvement and action.	
Problem-Solving Evaluates the relevance, validity and implications of alternative solutions. Presents the interests and values underlying various solutions. Supports a multi-disciplinary approach.	

ATTITUDES CRITERIA	Rating
Resources should help promote understanding and solidarity among all peoples	
Empathy Sensitive towards the viewpoints and feelings of other people, particularly those belonging to groups, cultures and nations different from our own.	
Respect Supports the development of self-respect and respect for others, particularly those with national, cultural and family background different from our own.	
Participation Supports solidarity with victims of injustice in one's own and other societies. Supports participation in political decision-making at local, national and international level. Supports solutions toward major world issues through cooperation at levels of individuals, organisations and nations.	

Overall _____

VALUES CRITERIA	Rating
Resources should help participants develop a commitment to working with and for others in the interests of equality, equity and sustainability	
Social Justice Examines inequalities of wealth and power. Presents efforts to redress them through development, aid, trade and technology.	
Equality Of Peoples Presents the principles of equality and democracy which underlie a belief in the equality of all peoples, as the right of all peoples to life, freedom and self-determination.	
Ecological sustainability Presents biodiversity as a right of all living species and as a basic principle of sustainability. Presents intra-generational and inter-generational equity as a right of present and future generations and as a basic principle of sustainability. Presents the satisfaction of essential human needs and aspirations as a priority and as a basic tenet of development.	

Overall _____

Adapted from:

Association for Curriculum Development and Supervision (ASCD) *Developing Instructional Materials for a Pluralist Society*, mimeo.
 Calder, M. and Smith, R. (1991) *A Better World For All: Development Education for the Classroom*, Australian Development Assistance Bureau, Canberra.

UNESCO (1991) *The Development of Criteria for Textbooks and Curricula on the Major Problems Facing Mankind*, Unpublished report from UNESCO International Experts Meeting, Griffith University, Brisbane.

World Commission on Environment and Development (1987) *Our Common Future*, Oxford University Press, Oxford.

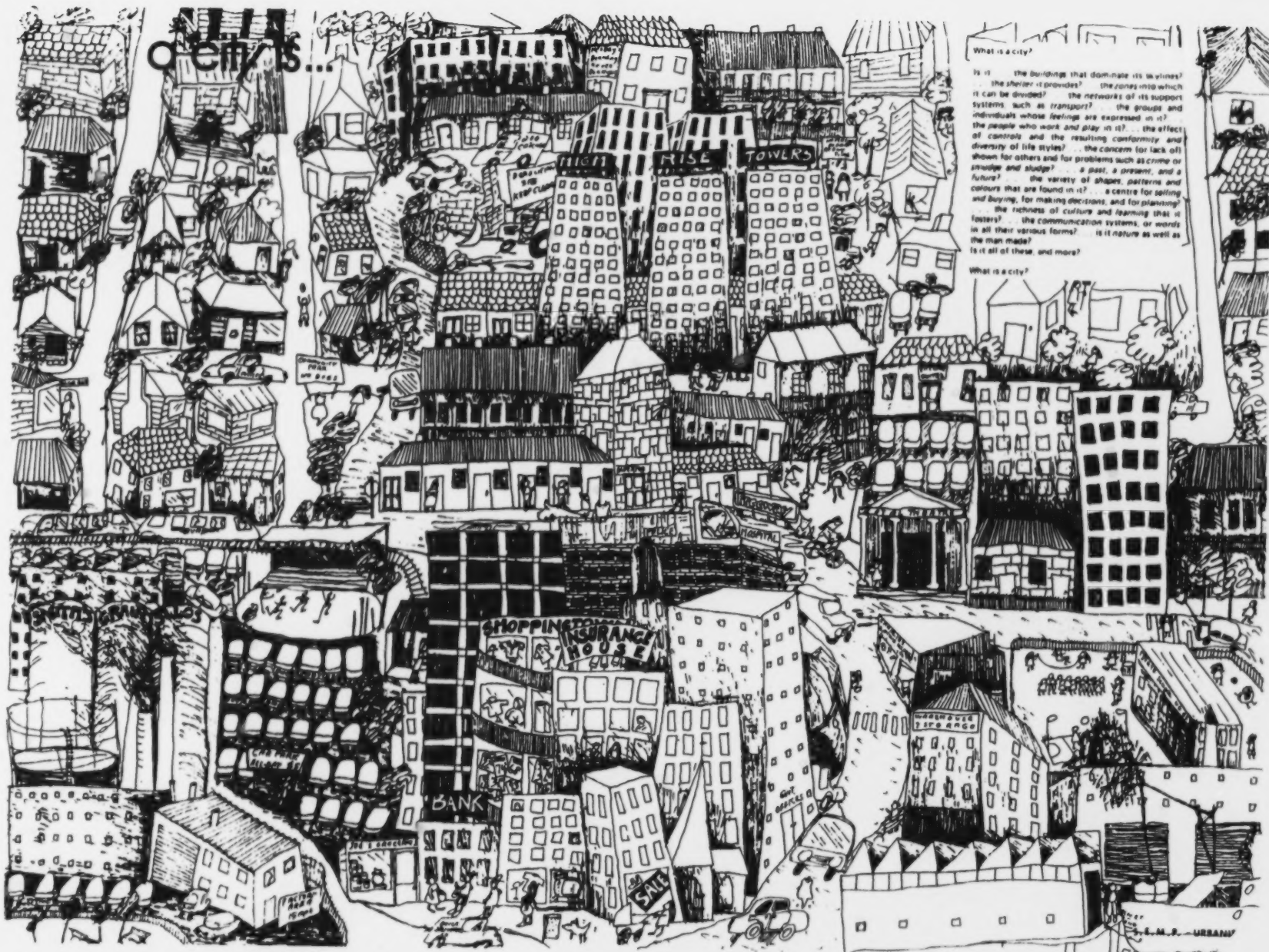


RESOURCE 6

A CITY IS ... WHERE THE ACTION IS

Source: Social Education Materials Project, Urbanism Team (1978) *People and the City* (Urbanism 1), Heinemann, Richmond.

This resource is provided on the next two pages and could be photocopy enlarged as the original was A3 size.



What is a city...

What is a city?

Is it the buildings that dominate its skyline?
 Is it the shelter it provides?
 Is it the zones into which it can be divided?
 Is it the networks of its support systems, such as transport?
 Is it the groups and individuals whose feelings are expressed in it?
 Is it the people who work and play in it?
 Is it the effect of controls and the resulting conformity and diversity of life styles?
 Is it the concern for lack of shown for others and for problems such as crime or sludge and sludge?
 Is it a past, a present, and a future?
 Is it the variety of shapes, patterns and colours that are found in it?
 Is it a centre for selling and buying, for making decisions, and for planning?
 Is it the richness of culture and learning that it fosters?
 Is it the communication systems, or words in all their various forms?
 Is it nature as well as the man made?
 Is it all of these, and more?

What is a city?

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210

Most of us live in cities

Australia is probably the most urbanised country in the world, with about 85% of its inhabitants living in cities.

It is important that we find out more about cities and come to understand them better. It is also just as important that people who do not live in cities should develop this knowledge and understanding for the lives of the rural-dwellers are intimately connected with cities and the city dweller.

What is a city to you?

A city can be looked at in many ways. We can talk about the physical shape of a city: its buildings, streets, offices, houses or transport systems. It also, however, has a social shape: its people, the groups and associations they form, and the way they express their feelings, show concern and communicate.

Views of the city

To many people cities are stifling, corrupting and to be avoided at all costs. Others glorify and glorify the city, seeing it as a culture hero which supports, refines and recovers all of the really important human values.

These different views of the city are not new. In ancient Roman times Varro claimed that 'God made the country and man made the town', while Horace complained of the city as being 'that bit of hell known as big city life'. It should be noted that these words were written some 2,000 years before the advent of cars, freeways, factories, skyscrapers and all the other trappings of big city life! On the other hand, Cicero, writing from the country, complains 'I cannot describe how ardently I long for town, how hard I find it to bear the stupidity of life here!'

While it is true that today there are many problems associated with cities and city living, they do have much to offer, particularly in the variety of options and choices they can provide. Cities have within themselves the potential for solving many of the problems they face, but first these problems must be recognised and efforts made to deal with them.

Why do people live in cities?

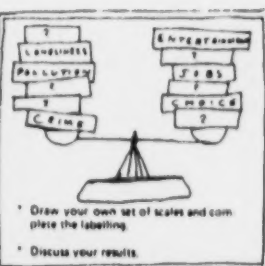
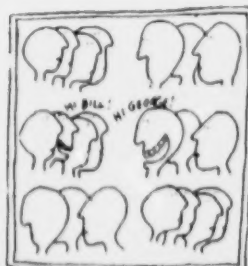
According to the Greek philosopher, Aristotle: 'Men come together in the cities in order to live, they remain in order to live the good life.'

Can city life be described as being the good life?

Does it depend on who you are?

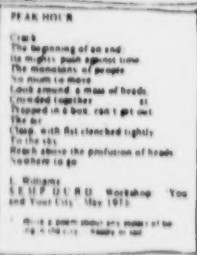
Can a city provide a good life for all?

Why do people live in cities?



* Draw your own set of scales and complete the labelling.

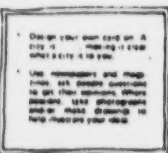
* Discuss your results.



The more increase in the number of people on our planet, if they were evenly distributed over the land area, would not in itself produce a powerful force for change. But when people are concentrated in a small space, the force for cultural, social and technological change increases, in much the same way that, if gases are pumped into a container, the number of collisions between the atoms or molecules in the gas will tend to rise.

Seen this way, the city is an instrument for accelerating change. It creates an environment in which dense concentrations of people of varying backgrounds can come into contact every day. The product of these contacts is accelerated cultural and social change.

Why should the concentration of people in a small space accelerate cultural and social change?
What evidence of this can you see in your city? Examine one aspect of change closely.

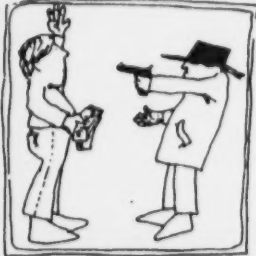


We're fast moving to a national society if we have not already obtained that status. This is no longer a city based society, no longer a city state. We can call it a nation state and maybe later an international state. The city is now like a house. It's a commodity for accommodating interaction...

Paul Wess, Yale University, 1966.

Is the city like a house? Does the analogy make sense? What does Paul Wess mean when he says 'it's a commodity for accommodating interaction'?

"CITIES ARE WHERE THE ACTION IS"



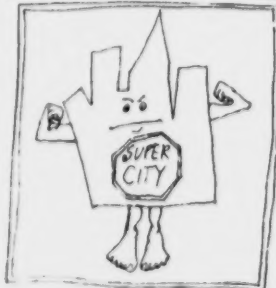
Cities are where the action is: the new science-based automated industries, jobs, wages, consumer markets, political decision-making, and resurgent arts and culture. They provide the setting in which capital, labour, and innovative genius produce the feats of modern technology that radically change our habits, ways of life, and the man-made environment. Today millions of people are seeking progress and material advancement in city centres. Their massive entry into the urban unleashes the awesome prospect of an urban explosion: a five-fold increase in numbers, heavy pressure on already overloaded urban facilities and on dangerously polluted settlements, and the rapid deterioration of the urban environment and the human condition.

Are cities really where the action is?
If so, make a list of the ways in which this is true.
Are most city dwellers part of this action? Can they be? Explain your answer.

While a city consists of more than buildings, streets, services, steel, concrete and glass, these are nevertheless the basic raw materials of the physical structure. They are static by nature and tend to be quite inflexible. Once in place they cannot readily be moved to suit either fancy or changing conditions, in spite of 'plug-in-city' notions or some of the more dramatic engineering feats which have been carried out from time to time. The width of the street cannot fluctuate in accordance with the volume of traffic, nor are buildings, in practice, to any extent really flexible, so that, if viewed critically, the often-made analogy of the city to a 'living organism' is pure fantasy.

Need the static nature of a city necessarily be inhibiting? If so, how can this be overcome? Use your imagination and design a flexible city or city component.

* Fields and trees teach me nothing, but the people in a city do.



RESOURCE 7

A CITY IS ... PAST PRESENT FUTURE

Source: Social Education Materials Project, Urbanism Team (1978) *People and the City* (Urbanism 1), Heinemann, Richmond.

This resource is provided on the next two pages and could be photocopy enlarged as the original was A3 size.

a city is... **PAST**

The Urban Process

Leonard Riechman

The problems faced by cities today were conceived in the past, and the problems of tomorrow are being created today and taking the same forms as those of the past. What has been learned from the past is applied to the present too slowly and too late.

How true is this?



The Federal Coffee Palace, corner of Collins and William Streets, 1880's. Demolished 1972.

PRESENT



The corner of Collins and William Streets, 1978.

FUTURE



The corner of Collins and William Streets, 7.

S. E. M. P. - URBANISM

...with increasing frequency, it is acknowledged that Australian history is important to Australians, important enough to matter a great deal. The rapidly with which change overcame Australia in its relatively brief existence makes an understanding of it both more difficult and more important. These 200 years really equate to a much longer period in other circumstances. The last 200 years have held more momentous changes for everybody, than any similar earlier period, but life here was also jolted from a deep colonial existence into world-connected importance by the gold rushes.

D. Saunders, 'Slaves and the Past', in A. Rapoport (ed.), *Australia as Human Setting*

How important is it to know about the past in order to understand the present?

How important is it to understand the present in order to plan for the future?

Should we plan for the future or just let it happen? What are some of the dangers of not planning? What are some of the problems relating to planning?

What does 'progress' mean to you? Does taking an interest in the past ever run counter to this?

Find an example in your city, or in a book, of preservation of the past being integrated into future planning.



Identify the activities shown here.

What are some of the modern equivalents? Search newspapers or magazines for photographs or take them yourself.

Which of these activities are not found now? Why?

Are we poorer for losing such people and activities from our streets?

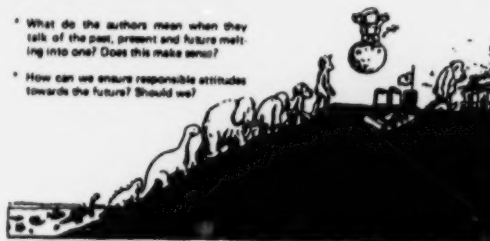
Discussions

Transformation and adjustment in technological society is so rapid that past, present and future melt into one thus giving the systematic prediction of future events equal weight with the interpretation of the past.

S. Chernysheff & A. Tross, *Shape of Community*

What do the authors mean when they talk of the past, present and future melting into one? Does this make sense?

How can we ensure responsible attitudes towards the future? Should we?



Time: If we are going to plan for the future of our cities we have to decide how far ahead we should aim and how much we sacrifice today's convenience for tomorrow's pleasure.

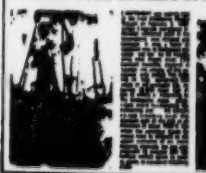
M.T. Daly, 'The Planning of Cities', in *Australia as Human Setting*

Which of today's conveniences should be sacrificed for the sake of tomorrow? How easy do you think it would be to persuade people to give up such things?



Tokyo prepares for the 'City Spider'

WHEN THE BALLOON



"A second hand model or the Brave New World?"

What 'signposts' of possible future technology can you see on this card? How far away do they seem?

Many people today can no longer cope with the complex artificial urbanised society which they have themselves created and seek instead a more simplistic and self sufficient lifestyle.

T.L. Blair, *The International Urban Crisis*

Is this a future possibility for all Australians?

Consider the possibilities of a 'more simplistic and self sufficient lifestyle'.

What does this mean? Design ways to make your lifestyle simpler and less reliant on the 'complex, artificial' aspect of urban living.

This could include doing away with constant use of cars, overuse of electricity, etc.

WELL, I RECKON THINGS ARE PRETTY BAD - AND WHAT'S MORE THEY'RE GOING TO GET A WHOLE LOT WORSE! UNLESS WE DO SOMETHING ABOUT IT - AND QUICK!

YES! - BUT HOW DO WE FIND OUT WHAT'S REALLY WRONG, AND HOW WE CAN FIX IT UP?



ROBOT SLAVES MASS-PRODUCED

Whole City Powered By Solar Energy

CITY FITS AUTOPAVEWAYS

Synthetic Food Supermarket Opens

Scientist Trains Children To Thought-Read

Design a future city in which city problems have been solved. Use your imagination.

What present day buildings and systems would you retain? Present your design to your class.



RESOURCE 8

WALLS OF WATER

Source: Adapted from Fien, J. (1989) *Living in a Global Environment*, AGTA Inc., Brisbane, Activity 26.

SO long as the sun and moon are there' was the old Sinhalese way of saying that the land and works of the village would always be there. Life in a village of Sri Lanka's dry zone revolved around three vital elements: the *dagoba* (temple), the *ketha* (padi-field) and the *wewa* (water tank). The irrigation tanks could be found in the jungle, in the mountains and in the villages, and they were so important that *wewa* came to be synonymous with the word for village.

There were many different kinds of *wewa*. There was the forest tank, for instance, which was built not for irrigation but to provide water for animals and stop them wandering into the padi fields in search of a drink. Then there was the erosion control tank or *pota wenye* which was designed to catch silt before it entered the two main water storage tanks.

This was an irrigation system that worked well for hundreds, even thousands of years. The great ancient capitals of Anuradhapura and Polonnaruwa rose and fell. Kings built huge water tanks for ornamental purposes that augmented their status but silted up and became grand, useless follies. But the village irrigation system went on undisturbed, ever renewing itself - in harmony with the earth and the people.

In the nineteenth century the British came. Much of the land was confiscated and sold off in five-acre plots. This has since made collective maintenance of the irrigation channels much more difficult - just as it has promoted factionalism and divisiveness. Now there are chronic water shortages and land that once gave two crops a year now only yields one.

When the British finally departed they left behind them a society with new aspirations, one that quite rightly wanted to take its place in the modern world, with equal access to its industrial wonders, its electricity. A new vision of irrigation was dreamed up. The old *wewa* system was primitive, they said. What we need is a dam project that will block the Mahaweli River and provide water for our fields and electricity for our factories. The British Government funded one of these, the Victoria Dam, out of its foreign aid budget and proclaimed its pride in this prestige project. Prince Charles and Princess Diana came to visit. President Jayewardene staked his political future on its success.

So the devastation began. The Mahaweli project will require over a million people to be moved - one sixteenth of Sri Lanka's population. Resettled families will get just 3,000 rupees (\$110) plus one hectare of forest in compensation. The cost has soared from 1,250 million dollars to 2,800 million dollars, strangling Sri Lanka's economy with debt repayments.

And as the cost mounts, so does the evidence against large dams. There is no chance that the Mahaweli dams will outlive the *wewa* - let alone the sun and moon.

All material from *The Social and Environmental Effects of Large Dams* by Edward Goldsmith and Nicholas Hildyard (Wadebridge Ecological Centre).



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STUDENT EXERCISES

1. Read the passage, "Walls of Water", and answer the following questions:
 - Why did the Sri Lanka dry zone revolve around the three vital elements of *dagoba*, *ketha* and *uewa*?
 - Explain why two different types of *uewa* were built.
 - What was the difference in terms of effectiveness between local irrigation systems and the grand designs by Sinhalese royalty?
 - What changes did the British make in the 19th century and what was the result of their intervention?
 - Describe the effects of the Mahaweli Projects?
2. Why do you think the authors pick on Sri Lanka as an example of old and new irrigation projects?
3. What do the authors think about the "colonial system"? What evidence do they offer to support their views? Is this a fair treatment of the "colonial system"?
4. Study the graphic on page 7.34.
 - On a copy of a world map locate the large dam projects and label each project using the most important ideas in the graphic.
 - List the nasty side effects of large dam projects.
5. Summarise the risks connected with large bodies of standing water under the following headings:
 - health
 - siltation
 - salinisation.
6. Why were the people of The Philippines so united in their opposition to the Chico project? To what lengths would they go to try to stop the project?
7. Do you think this exercise is biased against the builders of big dams? How might supporters of big dams present their arguments?
8. Imagine your class is the United Nations. Conduct a debate and have a class vote on whether big dam projects should be allowed to be constructed.

The building of large dams often forms a major part of a Third World country's development plans. This is encouraged by the World Bank, 36 per cent of whose agricultural development loans have been for irrigation projects. Both donors and local politicians are enthusiastic about dams because:

- They are prestigious
- They supply electricity (hydro-electric power) in a way that does not make the country dependent on expensive oil imports
- They allow extensive irrigation systems which can produce more food

But large dams also cause great damage - damage which far outweighs their benefits.

Dams can be big

- Some huge reservoirs produced by dam projects since 1948 are the only human-made things visible from outer space.

The Aswan Dam in Egypt is 17 times heavier than the Great Pyramid of Cheops.



The Volta Reservoir takes up five per cent of Ghana's land area and is about the size of Lebanon.

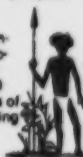
China's Yangtze dam project will displace 1,400,000 people - the equivalent of the entire population of a modern city such as Perth in Australia.



Nasty side-effects

Reservoirs flood large areas of land, destroying the culture and health of indigenous peoples.

- In Brazil, eight planned hydro-electric projects are expected to flood between 91,000 and 351,000 hectares of Indian lands, threatening the livelihood of 34 indigenous tribes.



The flood engulfs forests and previously fertile land.

- Between 1950 and 1975 India lost 479,000 hectares of forest land to dam projects. The Sriharim project alone flooded 43,000 hectares of farmland which had provided a livelihood for 100,000 people.

Fertility is lost as over-irrigated land becomes a salty desert.

- At least 60 per cent of the world's irrigated land now suffers from salinization. Between 200,000 and 300,000 hectares of irrigated land are taken out of production every year because the earth has become too salty.

The health of people in all irrigated areas, not just in the region of the reservoir, is threatened by waterborne diseases such as schistosomiasis and river blindness as well as malarial mosquitoes which breed in swampy conditions.

- The building of the Aswan Low Dam in Egypt caused local schistosomiasis rates to rise from 21 per cent to 75 per cent.



Those who benefit from a dam - from its electricity and the export crops fed by its irrigation - tend to be urban elites and multinational corporations rather than the poor.

- Iran's Dez Dam was supposed to provide 80,000 hectares of irrigated land to small farmers in Khuzestan. Instead almost all the land went to foreign-run, intensive plantations producing crops for export. The scheme displaced 17,000 peasants.

Silt - the accumulation of earth carried into reservoirs by rivers - means that reservoirs in tropical climates can very quickly become clogged and useless.

- In China, the Sanmenxia Reservoir was completed in 1960 but had to be abandoned in 1964 due to premature siltation. The Laoying Reservoir actually silted up before its dam was completed.

Where do we go from here?

Dams have until now been considered a clean way of producing electricity. But we are only now realizing the enormous damage they cause. The way forward lies in research into wind and wave power for temperate countries, and solar power for tropical countries.

Irrigation is now considered essential to increase food production. But it is counter-productive if rising salt levels make the earth unusable by future generations. Irrigation schemes must at least take into account the need for drainage.

In the meantime, the bigger dams are, the more problems they cause. We should stop building large dams for the sake of prestige and concentrate on small, manageable projects where the environmental damage can be limited.



Voices against the flood - a protest against the construction of the Chico Dam in the Philippines.



READING 1

AN INTRODUCTION TO SEMP

ZITA UNGER

Readings 2-4 are adapted from a critical analysis of The Social Education Materials Project (SEMP) urbanism kit, *People And The City*.

Some background information about the kit and ways that its critique might impinge on environmental and development education are suggested in this paper.

Background

In 1973 the Curriculum Development Centre was set up by Whitlam's Labor government as part of its major education reform program following its election. The Social Education Materials Project (SEMP) was the first major project undertaken by the newly formed Curriculum Development Centre.

SEMP: A Milestone in Curriculum Development

Although its impact in terms of school adoption rates was disappointingly low, SEMP represented a milestone in Australian curriculum development in several important respects:

- **Scale:** This was the first social education project to be prepared at a national level. This highly ambitious undertaking mobilised resources that required massive co-operative, consultative and participatory organisation across state systems and non-government schools.
- **Knowledge** It attempted to incorporate the latest knowledge about society and really motivate participants to examine social life and think for themselves.
- **Format:** It departed radically in format from other packaged learning materials, being exemplary in its open-ended design, its collaborative intentions with the teacher and its flexibility of implementation.
- **Controversy** SEMP sought to handle controversial issues in a balanced and comprehensive manner which would represent a broad range of views.

It was itself, however, the subject of controversy and notoriety following the 1978 banning of the SEMP *Family* materials in the state of Queensland.

It seems ironic that SEMP material was politicised in this way because case study analysis of the urbanism kit, *People And The City*, points to its rather dilute political character as a text.

Parallels with Environmental and Development Education

- The SEMP urbanism kit covered environmental issues, such as pollution (air quality, toxic chemicals, urban landscape), and waste (recycling, the throwaway society).

Current attention to energy efficiency, global warming, ozone problems, waste minimisation and the biophysical environment in environmental education takes a much broader perspective.

- The SEMP urbanism kit covered the activity of urban planning from the point of view of decision making processes, social justice, the urban infrastructure and urban dysfunction.

Current attention to sustainable development and sustainable futures in environmental education generates new meanings and poses new challenges for the planning process.

Common Interests

There remains many interesting parallels that make analysis from the experience of social education particularly valuable and relevant for current realities in environmental education.

Where similarities exist, environmental and development education can benefit from work done in social education. Most especially because both share:

- an emphasis on critical reflection of oneself and society,
- the need to apply theories about society,
- commitment to a multi-discipline approach,
- social action objectives, and
- examination of solutions to social issues.

READING 2

ON BALANCE

ZITA UNGER

The Social Education Materials Project (SEMP) urbanism kit, *People And The City*, was designed for use at junior and middle secondary school. It focused on Australian cities from the point of view of their dynamics and the urban environment as a living resource.

SEMP was keenly committed to balance and diversity. It was intended to be eclectic and to provide a variety of opinion.

The materials were not written with any particular 'theory' in mind. Any suggestion that there was a unifying discourse (such as the urbanist discourse) would be firmly rejected by its developers.

Did it achieve a balanced approach?

1. The SEMP Materials

The SEMP kit, *People And The City*, contained three sections.

- *A City Is...* 25 poster-size broadsheets, designed to explore the question "what is a city?" in a structured inquiry way. Each broadsheet centred on one aspect of the city with extracts from books, articles, newspapers and a range of expert opinion. (Two of these broadsheets are used in Activity 5)
- *Urban Trails*. A participant booklet, designed to prepare first hand exploration of one's immediate environment or community in a practical way. Participants were provided a simulated trail through a fictitious city, as well as some open-ended ideas for an "actual" trail.
- *The City In Action...* 20 activity cards, each dealing with an aspect of city life in a creative way. Each card called for a personal response to a photograph or drawing of urban life.

2. What is Balance?

According to the Curriculum Development Centre, which developed the SEMP kit, balance is about representing a broad range of opinion:

The provision to participants of a balance of views on particular issues is an important principle ... It should be noted that some individual items of material in SEMP may be taken from primary sources which take an extreme view of an issue. However a broad range of views is represented in each unit and in SEMP taken as a whole. (M. Skilbeck in Teachers Guide, p. vi)

3. Assessing Balance in the SEMP Urbanism Kit

By evaluating the depth, breadth and urban orientation of the SEMP kit, we also question the quality of its diverse offerings and, indeed, the very notion of diversity itself.

3.1 Depth: How are social structures and processes understood?

- Two main propositions - that cities are dynamic and complex, as well as, that cities have a meaning relative to one's experience - were intended as learning outcomes by the kit. *Prima facie*, these proposals appear to subsume the range of ideas contained by the materials as well as to assist the flexibility to which the materials were committed. That cities are dynamic and complex may be an axiom of social theory, without comprising a theoretical orientation of itself. Similarly, the proposition that a city means different things to different people according to their experience, could hardly be contradicted. Sensitivity towards social differences is not sufficient to explain how these differences are socially produced.

- As criteria for the selection of material, these two propositions, therefore, are inadequate to determine whether a comprehensive range of views are represented. Materials with no greater justification than that they all said something about the complexity of the city might not offer the kind of balanced approach SEMP had intended. In addition, these propositions are inadequate as a basis of inquiry into the production, functioning and transformation of social processes and social structure.

Hence, Skilbeck's cautionary warning that extreme views are present in the SEMP material, and the assurance that balance would be restored by diverse opinion, was premature and optimistic.

3.2 Breadth: Are the materials comprehensive? Do they contain a range of opinion?

- Examination of this kit revealed that diversity was not necessarily built in, despite its claims that diverse opinion was represented in the materials. Neither the provision of assorted expert opinion, nor the presence of "other" points of view guaranteed a broad sweep of positions.
- For instance, the introductory broadsheet, *Where The Action Is...*, clearly represented the urbanist discourse, despite the "diverse opinion" that was presented in the materials. This is in part due to the broad reach of urbanist discourse and in part due to SEMP's utilisation of empiricist, biologist and psychologist discourses that support and participate in the urbanist discourse. (see Reading 2 for further discussion)

3.3 Orientation: Is there an 'urban' approach?

- Manuel Castells argues that urban questions can be understood to be about the social organisation of the *means of collective consumption*. By means of collective consumption he meant the provision of basic facilities, such as housing, schools, hospitals and urban infrastructure, that are necessary for the reproduction of labour-power and the urban system. Therefore, crises in the state provision of these facilities create opportunity for new sources of class struggle to emerge around issues of consumption.

- Castells' notion of collective consumption provides a useful general indicator of urban orientation and was used in one research study to point out several areas of inadequacy in the curriculum materials (Unger 1989). Fairly relaxed criteria were used in this study and applied to the way the broadsheets impinged on urban questions. Simple distinctions between state and market forces, individual and collective consumption, and the provision and use of facilities readily highlighted many deficiencies. The main findings were:

- i) The materials lacked a distinctly urban orientation because of their tendency to emphasise market forces and individual consumption of facilities.
- ii) Topic areas such as housing, schools, transport and planning were a necessary but hardly sufficient condition of urban analysis.
- iii) Where the urban context functioned merely as a setting for general social inquiry there was little justification for its inclusion in an urbanism unit.

4. The "Bias and Balance" Discourse

- The idea of *balance* in the evaluation of resource materials tends to be understood as the opposite of *bias* and the natural redress to the effects of bias.
- The SEMP kit attempted to achieve balance by presenting a broad range of *opinion*. What it failed to achieve was a broad range of *perspective*.
- It is interesting that the Department of the Arts, Sport, the Environment and Territories, which developed the ill-fated 1992 Word Environment Day School kit, characterised balance as the representation of a broad range of *social interests*. The following extract is taken from a letter advising educators of the withdrawal of the kit and requesting that schools not use the material:



As you may be aware the Kit contains material which might be seen not to represent an accurate or balanced view of a number of the issues it explores. For instance the Land Management section does not recognise the very significant positive contributions by individual farmers, local landcare groups, the National Farmers Federation and the Australian Conservation Foundation in tackling land management problems in Australia. (Letter, Department of the Arts, Sport, the Environment and Territories, 2 June 1992)

- Resource evaluation is often restricted to an internal analysis of logical consistency, coherence, and matching statements of objectives and intentions with content. It is often assumed that presenting "both sides" of a story, or even assembling several different stories, can collectively yield the total picture and consummate narrative.
- We need to think about the issue of balance broadly and deeply.

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READING 3

COMMENTARY ON: *A CITY IS ...WHERE THE ACTION IS...*

ZITA UNGER

The Social Education Materials Project (SEMP) urbanism kit, *People And The City*, was designed for use at junior and middle secondary school. It focused on Australian cities from the point of view of their dynamics and the urban environment as a living resource. *Where The Action Is* introduces 25 poster-size broadsheets entitled *A City Is...*

Where The Action Is explores the fundamental urban question, what is a city?

What is at stake here is that explanations of urban problems has implications for the treatment of urban problems.

3.1 Urbanism

By *urbanist discourse* I refer to a tradition of urban sociology that developed from the Chicago school of human ecology in the 1920s and 1930s. The clearest theoretical attempt to define the characteristic features of an urban culture, and to explain its evolution based on a particular ecological form, was put forward by Louis Wirth (1938). He proposed that urbanism, as a way of life, was a product of the city as a spatial form, whereby society historically evolved from rural to urban through increases in size, density and heterogeneity.

The permanent settlement of human population of high density and with a sufficiently high degree of heterogeneity results in the emergence of a new culture characterised by the transition from primary to secondary relations, role-segmentation, anonymity, isolation, instrumental relations, the absence of direct social control, the diversity and transience of social commitments, the loosening of family ties, and individualistic competition. It is this social-cultural context which is the ultimate explanation of the new forms of human behaviour. (Castells, 1977)

3.2 Urban Life

The SEMP broadsheet, *Where the Action Is*, graphically depicts several aspects of the 'urbanism as a way of life' theme:

- a cartoon where two people greet each other briefly and impersonally suggests that secondary contacts are "typical" of urban life;
- a drawing of a rack of discount coats signifies competition and choice;
- a sketch of a hold-up depicts the endemic problem of crime in the city.
- a scale which "weighs" problems such as crime, pollution and loneliness, against benefits such as diversity of choice, jobs and entertainment serves to further reinforce these themes - the assumption being that such features are typical of cities and are in fact generated by them.
- the "super-city" caricature, together with its bleak alter-ego, depict the city as an organic entity - which suggests that it is responsible for producing these positive and negative outcomes.

3.3 Size, Density and Heterogeneity

Brief excerpts from "expert" opinion also support a notion of the city in these urbanist terms:

- Fabun's definition of a city as an instrument for accelerating change applies factors of density and heterogeneity as determinants of change.
- Weiss' prediction that society would develop beyond the city state, toward the national and international state, develops urbanist historical evolution themes.
- Blair's proposition that cities are where the action is, applies the factor of population size to explain why urban problems have intensified.

Even the title of the broadsheet, *Where the Action Is*, is a direct quotation from Blair. As an idiom, "where the action is" suggests that the city is the source of irrepressible, vital, innovative activity. As a quotation, this meaning is reinforced: the city - where the action is - is a setting for new technologically based industry, new consumer markets, new cultural activity and new political decision making, which shapes our "way of life".

Wirth's classic reference to cities as relatively large, dense and heterogeneous settlements, outlined in an excerpt from Hurd, is treated more like a sociological imperative than simply a definition.

Factors of size, density and heterogeneity are generally accepted throughout the kit to be essential parameters, as the following examples (including other broadsheets from *A City Is ...*) indicate:

- It has been said that culture is generated in cities. Where there are a great number of different people there is more likelihood of cultural activities being generated. The choice therefore becomes wider too. (*Culture*)
- While it is true that today there are many problems associated with cities and city living, they do have much to offer, particularly in the variety of options and choices they can provide. (*Where the Action Is*)
- The city is traditionally the centre of learning. Schools, universities, libraries, galleries and theatres are found there in greater concentration. Also, in most of our large cities there is a great diversity of employment, of lifestyles and ethnic background. For most city-dwellers there is the opportunity for a variety of learning experiences. (*Learning*)

3.4 Organic identity

In addition to factors of size, density and heterogeneity, the materials also sustain biologist notions of an organic "society", as the following examples throughout the kit would indicate:

- The slides would probably be best used as an introduction to any study of cities. If the slides are shown in one sitting, they should successfully communicate to participants the impression that the city is a complex organism made up of many interrelated parts. (*Teachers Guide*, pp. 10-11)
- Can a city provide a good life for all? (*Where the Action Is*)
- Does living in a city force people to conform or does it offer a wide range of possibilities for different lifestyles and ideas? (*Conformity... Diversity...*)
- Cities offer many opportunities for people to meet and share interests. (*People*)
- How should the city meet the needs of:
 - young children whose parents work
 - teenagers who want a good education
 - new arrivals who find things rather strange and confusing
 - workers who have to travel long distances each day
 - visitors and tourists
 - old people on below-average incomes
 - handicapped people
 - couples with young children
 - people who are lonely and unhappy. (*People*)
- Does city living tend to magnify the problems or does it give greater opportunities for solving them? (*People*)
- Discuss whether cities 'bombard' people with messages. (*Communication*)
- Does city life produce 'meanness and dishonesty'? (*Crime*)

Essential to the biologist description is an organic identity which is a source of urban arrangement and a cause of urban problems. It provides. It forces. It bombards.

The organic assumption is unproblematically accepted in the *Teachers Guide*. City problems are seen to arise from the nature of the city itself, as the following instances highlight

- The challenge which faces the urban planners is how to overcome the problems which *cities generate* and yet retain and increase the advantages that *they offer*. (*Teachers Guide*, p. xii)
- The city is a *complex organism* made up of many interrelated parts, offering both advantages and disadvantages to its inhabitants, and by its *nature* giving rise to many issues and problems. (*Teachers Guide*, pp. 10-11)
- Peter Hollingworth (then from the Brotherhood of St. Laurence) concentrates on the social problems that a *city might generate*; a policeman, Bill Crowley, reminds us that *cities and crime* are in many ways synonymous [sic]. (*Teachers Guide*, p. 13)

3.5 Conclusion

This reading suggested ways in which the SEMP broadsheets produced a notion of the city in urbanist terms. Castells referred to the urbanist thesis as '*urban ideology*'. By this he meant that urban problems, explained by the nature of the city, had the social effect of masking class conflict and legitimising dominant interests.

It had practical effects too. When problems and conflicts are due, not to a form of social organisation, but to a 'technological' and 'natural' process then solutions to conflict and contradiction becomes technical, not political. The rational planning process functions as a generator of social transformation and as the legitimate form of social intervention.

How urban problems are understood, then, will greatly effect the range of planning strategies and possibilities for social action.

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READING 4

COMMENTARY ON: *A CITY IS ... PAST PRESENT FUTURE*

ZITA UNGER

The Social Education Materials Project (SEMP) urbanism kit, *People And The City*, was designed for use at junior and middle secondary school. It focused on Australian cities from the point of view of their dynamics and the urban environment as a living resource.

Past Present Future is one of 25 poster-size broadsheets entitled *A City Is ...*

The broadsheet addresses environmental issues in the context of rapid technological change and planning for the future.

4.1 The ideology of the environment

Manuel Castells referred to the urbanist thesis as *urban ideology*. By this he meant that a system of social relations (urban culture), which is explained by a given ecological context (the city), is essentially misconceived and has the social effect of masking class conflict and legitimising dominant interests.

Castells asserted that the urban ideology formed part of the more general ecological question that he referred to as the *ideology of the environment*. By this he meant that the protection of the environment - in the face of the biological problem of survival in which people merge together ready to defend nature against the misdeeds of technological progress and the consequences of productive forces - is essentially misconceived and has the social effect of masking class conflict and legitimising dominant interests.

The ideology of the environment is characterised as:

- *apolitical*, social tensions and deficiencies are explained without reference to social production or social contradiction, the effect of which is to merge social classes into "one army of Boy Scouts";
- *universalist*, explanation is reduced to ideal entities, to the relation between "man" and "nature", governed by "technology";

- *scientist*, social inequalities are transformed into questions of physically harmful effects which focus on observable, quantifiable phenomena and implies technical, not political, resolution.

Technology is seen to become a vital force, the source of problems and the basis of social transformation.

4.2 Towards a theory of social structure

Ecological questions can challenge the fundamental social relations of production and power. The emphasis of use value over exchange value (for instance, the questioning of the acquisition of commodities by adopting a simpler lifestyle) can seriously contest the material organisation of daily life by capital and by the state.

However, the mere description of a process does not inform us about its technico-social complex (productive forces and the relations of production).

This is the point of the following critique. The adoption of a position, such as supporting a simpler lifestyle, may not necessarily secure the kinds of understandings that can seriously question social structure and work for social change.

4.3 Towards a simple lifestyle

Past Present Future raises the possibility of a simpler lifestyle as one approach to manage and redress environmental problems:

- Is this [a simple self-sufficient lifestyle] a future possibility for all Australians?
- Consider the possibilities of a 'more simplistic and self-sufficient lifestyle'.
- Design ways to make your lifestyle simpler and less reliant on the 'complex, artificial' aspect of urban living. This could include doing away with constant use of cars, over-use of electricity, etc.

- Which of today's conveniences should be sacrificed for the sake of tomorrow? How easy do you think it would be to persuade people to give up such things?

The difficulty in developing the issue of a simpler lifestyle, however, arises from its incorporation into the following contexts:

- the artificial urban society thesis;
- rapid, technological change thesis;
- futuristic marvels and technology;
- the individual as a site of social change and social regulation; and
- planning and technology as an appropriate response to social issues.

It has all the markings of classic ideology of the environment.

4.4 The context of the individual as a site of change

The urbanist thesis locates responsibility for environmental problems on the urban phenomenon and ultimately on each citizen. *Past Present Future* implicitly accepts this explanation by raising the prospect of a simpler lifestyle in response to the artificial urban society. Participants are asked which of today's conveniences should be sacrificed for the sake of the future, how readily people might relinquish conveniences, and how one's own lifestyle might be less reliant on the 'complex artificial' aspects of urban living. In each case the solution placed onus on the consumer to *relinquish* certain comforts and for consumers to do more with less.

These propositions have implications for the social regulation of the individual and the regulation of social action. Appropriate "action" that can be taken is through civic-minded self discipline, by "good" ecological, biological and, of course, social behaviour.

4.5 The context of the future

The question of "the future" amounts to making predictions about a society which is dislocated in time and place and defined by its technological achievements. The cover page of the broadsheet shows the corner of Collins and William Streets as it was in the Past (1880's) as it is in the Present (1976) and 'predicts' what it might become in the Future, replete with futuristic mechanical devices.

Throughout the broadsheet the future is depicted by technological marvels:

Robot Slaves Mass-Produced. Whole City Powered by Solar Energy. City Fits Autopaveways. Synthetic Supermarket Opens. Scientist Teaching Children To Thought-Read. Tokyo prepares for the 'City Spider'.

The future implies the distant future. Daly's extract urges us to decide "how far ahead we aim". We must plan now what sacrifices we need to make. Clearly, what we are prepared to sacrifice "today" for the sake of "tomorrow" is not meant literally here:

If we are going to plan for the future of our cities we have to decide how far ahead we should aim and how much we sacrifice today's conveniences for tomorrow's pleasure. (T. Daly 'The Planning of Cities', in Australia as Human Setting.).

The future suggests novelty. The question, "can you imagine anything completely new and different" in designing a sport that would be suitable "for your idea of future society", would tend to encourage an outlook far removed from present, everyday social life.

Making predictions, then, is tantamount to making wild forecasts in a way that does not inform, explain or transcend present society. Prediction validates planning and technocratic rationalism as the legitimate instrument to "correct" social problems. This is the clear message of the following quest for a solution:

Design a future city in which city problems have been solved. Use your imagination.

4.6 The context of rapid, technological change

The prophetic appeal by the two cartoon characters to do "something - and quick" bears the warning that technological domination may destroy man and/or nature.

Extracts from expert opinion cautions about the alarming speed at which technological transformation has occurred.

Transformation and adjustment in technological society is so rapid that past, present and future melt into one thus giving the systematic prediction of future events equal weight with the interpretation of the past. (S. Chermayeff & A. Tzonis, Shape of Community).

Progress is conflated with development, and the ideology of the environment is supported by this confusion. Development is referred to here as a level (technological, economic) rather than as a process (qualitative transformations of social structure), with the result that social change or structural transformation is presented as an accumulation of technological and material events. When understood as levels of technology, the need to examine social differences and social structure is diminished.

Castells readily acknowledged the crucial role of technology in urban transformation, especially through advances in communications and developments in production. He denied, however, that urban transformation was the necessary result of technological progress. Technology was one element of the total productive forces, and as such, was as an expression of advanced capitalism and mass society.

4.7 The context of planning and technology as instruments of change

Planning (rational, neutral and scientific) is seized as the remedy for social questions and the political context in which planning operates is disregarded. In the following activity, the political context is even further displaced by the hint that participants should think creatively:

Design a future city in which city problems have been solved. Use your imagination.

Planning can therefore replace social and political debate. The following question sustains the legitimacy of technological solutions, to what are essentially political problems. The need for planning arises out of the terror of disorganisation (can we just 'let it happen'?).

*Should we plan for the future or just 'let it happen'?
What are the dangers of not planning? What are some of the problems related to planning?*

What is especially problematic is that distinctions in the broadsheet between "ensuring responsible attitudes towards the future", "designing a future city in which city problems have been solved" and "designing ways to make your lifestyle simpler", appear to represent differences of scale in social planning and social management. Technocratic rationalism becomes the motor of social transformation.

4.8 Conclusion.

The massive intervention of the state in the planning of urban infrastructures, such as housing and transport, dramatically changes the urban environment. Urban planning is part of change - directing change, acting on social relations, and producing effects on class struggle. The question is, what sort of change?

Given the context where the individual is a site for transformation, where planning and technology are seen as the motor of social change, and where predictions about the future are remote from present day society, the adoption of a simpler lifestyle may well become an issue of social integration rather than social change.

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TEACHING *for* ECOLOGICALLY SUSTAINABLE DEVELOPMENT

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INTRODUCTION

This workshop analyses the concept of Ecologically Sustainable Development (ESD). It utilises activities from the teaching resource, *Teaching for Ecologically Sustainable Development: Guidelines for Years 11 - 12 Geography*, which has been published by the Department of Education, Queensland. The workshop structure models some of the learning and teaching strategies which are outlined in this publication.

Please note that while the original resource was prepared for Years 11-12 students of geography, this workshop has been written to be relevant to teachers of all subjects and all year levels.

OUTCOMES

The workshop provides participants with opportunities to:

- develop an understanding of the concept of Ecologically Sustainable Development by examining the value base behind a range of interpretations of the concept and clarifying their own views;
- develop an understanding of the objectives of education for Ecologically Sustainable Development;
- practice a number of learning and teaching strategies that promote education for ESD, in particular values clarification, large and small group discussion and evaluation activities; and
- plan teaching units which incorporate the aims, knowledge, processes, skills and values inherent in education for Ecologically Sustainable Development

WORKSHOP OUTLINE

1. Overview

An introduction to the structure of the workshop.

2. Where Do You Stand?

An 'icebreaker' involving a 'physical' values continuum. The activity also divides participants into groups for a later activity.

3. The Great ESD Debate!

Background information about the concept of ESD involving a video and a mini-lecture.

4. What is ESD?

A values exploration and clarification exercise in small groups. Alternative meanings of sustainable development and the values underlying them are analysed.

5. Why Teach for ESD?

A mini-lecture which gives the rationale for ESD followed by small group work to plan teaching units using 'circus' strategy.

MATERIALS REQUIRED

A) PROVIDED

OVERHEAD TRANSPARENCY MASTERS

OHT 1: Proverb, Kuan Tzu 500 BC

OHT 2: Overview of Session

OHT 3: Principles of Ecologically Sustainable Development

OHT 4: Aims for Education for Ecologically Sustainable Development

RESOURCES

Resource 1: Sustainable Development statement cards

Resource 2: What is Ecologically Sustainable Development?

Resource 3: Values Continua

Resource 4: Aspects of Sustainability

Resource 5: Aspects of Development

Resource 6: Sources of ESD Definitions

Resource 7: Unit Planner

Resource 8: ESD Teaching Issues

READINGS

Reading 1: Nature of Ecologically Sustainable Development

Reading 2: Why Education for Ecologically Sustainable Development



B) TO OBTAIN

Activity 1: Video: *Only One Earth: Part One - Our Common Future*.

Available from: Ideas Centre, PO Box A100, Sydney 2000.

Ph (02) 281 8099 Cost: \$50 plus postage

Activity 4: The sustainable development definitions on Resource 1 need to be copied and cut up (and perhaps mounted on card) so that there is a set for each group.

ADDITIONAL READING

Fien, J., ed. (1993) *Environmental Education: A Pathway to Sustainability*, Deakin University Press, Geelong.

IUCN, UNEP and WWF (1991) *Caring For The Earth: A Strategy for Sustainable Living*, IUCN, Gland, Switzerland.

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ACTIVITIES

1. OVERVIEW

- A suggested introductory activity would be to discuss the importance of education for ESD as illustrated by the words of the Chinese poet Kuan Tzu in 500 BC (OHT 1).
- Outline the sequence of the workshop session (OHT 2)

2. WHERE DO YOU STAND?

This activity is used to highlight the values-centred nature of the concept of ESD.

- Attach two sheets of butcher's paper to opposite walls of the workshop space. Each sheet should have marked on it a statement which illustrates an opposing view of a particular environmental or development issue, e.g:
 - Which form of transport would you prefer to own? (Porsche / bicycle)
 - World Heritage listing of the Queensland Wet Tropics (Yes / No)
 - Mining in Kakadu (Yes / No)

It is preferable to choose an issue on which the participants are likely to take a personal stand and which will illustrate diverse values within the group.

- Ask participants to position themselves along a continuum between the two sheets of paper according to their view on the issue.
- Ask the participants to turn to their neighbour and discuss the reasons why they have positioned themselves in such a way.
- Ask participants at opposite ends of the continuum to justify their choices.
- Debrief by asking participants to suggest how this strategy could be used in a classroom.
- Ask participants to form groups of 3-4 people based upon a spread of viewpoints from this exercise before returning to their seat.

3. THE GREAT ESD DEBATE!

A. Video

Part 1 of the video *Only One Earth - Our Common Future* provides a short summary of the background to the emergence of the concept of 'ecologically sustainable development' and the issues which accompany it.

B. Mini lecture

Information for a mini lecture to accompany the video may be drawn from Facilitator Reading 1 which is taken from *Teaching for Ecologically Sustainable Development*.

OHT 3 may also be used at this point.

4. WHAT IS ESD?

In 1987 the World Commission on Environment and Development (1987, p. 43) described the concept of sustainable development as:

... development that meets the needs of the present without compromising the ability

of future generations to meet their own needs.

Since then this broad definition has been taken up by a number of groups and interpreted in a variety of ways. There are now well over 160 definitions of the term 'sustainable development' and, though some are variations on a theme, many reflect basic differences in values. It is important that participants recognise that there is no consensus on what ESD means in practice. Therefore, this activity is designed to expose them to a selection of statements made about sustainable development and to assist them to look closely at the values underlying those statements.

Preparation

- Copy and cut up Resource 1 to prepare a set of Sustainable Development Statement Cards (and paste on to card if necessary) in order to have a complete set of cards for each group.
- You may wish to use all the Statement Cards or you may choose to discard some. If time is short you may wish to leave out Statement Cards 1, 5, 7, 8, 12 and 15.

NOTE: Statement Cards 3, 6, 10 and 13 are especially essential to be included.

- Participants should be in groups of three to four persons for this activity.

Instructions

- Distribute Resources 2-5 and the sets of Sustainable Development Statement Cards to each group and explain the procedure for the activity as outlined on Resource 2.
- Discuss the explanations of sustainability and development which are outlined on Resources 4 and 5.
- Before allowing groups to start on the activities on Resource 2, work through one of the Statement Cards and, as a whole group, discuss marking its position on the values continua of Resource 3.

Debriefing

- Discuss with the group the range of values and the principles involved in the concept of ESD.
- Using Resource 6, check the participants' answers to Question 2(d) on Resource 2.
- Have participants read their definitions of ESD to the group and discuss the differences between them.

5. WHY TEACH FOR ESD?

A. Mini lecture

Information for the mini lecture may be taken from Facilitator Reading 2 which is taken from *Teaching for Ecologically Sustainable Development*.

OHT 4 may be used at this point.

B. Unit planning exercise

- Divide participants into small groups with interests in the same teaching grades or subjects and give each group a copy of Resource 7, photocopy

enlarged to A3 size.

- Each group selects a key ESD issue either from Resource 8 (or of their own choice) upon which to develop the outline for a teaching unit.
- Groups use the information gathered from the workshop to brainstorm ideas and complete the summary unit plan on Resource 7.

NOTE: Facilitators may wish/need to provide appropriate syllabuses, curriculum guides or other resources to assist.

- Each group then displays its summary unit plan on the wall. One person from each group remains with the plan to clarify and answer questions, while the rest of the group circulate to view (and even add to) the ideas displayed on the other groups' plans.

OHT 1

If you are thinking a year ahead, sow seed

If you are thinking ten years ahead, plant a tree

If your are thinking a hundred years ahead, educate the people

Chinese poet Kuan Tzu 500 BC



OHT 2

OVERVIEW

1. Overview
2. Where do you stand?
3. The great ESD debate!
4. What is ESD?
5. Why teach for ESD?

OHT 3

PRINCIPLES OF ESD

- Qualitative development
- Pricing environmental values and natural resources
- Adopting a global perspective
- Ensuring efficiency
- Ensuring a resilient economy
- Ensuring an externally balanced economy
- Community participation
- Ensuring intergenerational equity
- Conserving biodiversity and ecological integrity
- Preserving constant natural capital and 'sustainable income'
- Supporting an anticipatory and precautionary policy approach
- Ensuring social equity
- Limiting natural resource use

EDUCATION FOR ECOLOGICALLY SUSTAINABLE DEVELOPMENT SHOULD AIM TO:

- clarify the concept of ecologically sustainable development (ESD)
- develop understandings of ecological and economic principles
- promote critical analysis of the relationship between ecological and economic principles
- include positive models and successful case studies of ESD in action
- promote values and personal actions which are integral to the achievement of ESD
- encourage active participation in decision making regarding ESD.

RESOURCE 1

SUSTAINABLE DEVELOPMENT STATEMENT CARDS

1 Sustainable development is development that is consistent with the natural functioning of the biosphere.

2 Sustainable development is development that takes into account the impact of projects on the environment and natural resources.

3 The simplest definition of a sustainable activity is that it can be continued for the foreseeable future. And this has at least three dimensions: it means not unreasonably depleting natural resources, not producing waste products that significantly alter natural systems, and not undermining social stability.

4 Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs.

5 The core of the idea of sustainability is the concept that current decisions should not damage the prospects for maintaining or improving future living standards.

6 A primary goal of sustainable development is to achieve a reasonable (however defined) level of fairly distributed economic well-being that can be maintained for many human generations.

7 Sustainable development - development that is likely to achieve lasting satisfaction of human needs and improvement of the quality of human life.

8 The sustainable society is one that lives within the limits of its environment. That society ... is not a 'no-growth' society. It is, rather, a society that recognises the limits of growth and looks for alternative ways of growing.

9 The government supports the concept of sustainable economic development. Stable prosperity can be achieved throughout the world provided the environment is nurtured and safeguarded.

10 A strategy of development aims to increase the fulfilment of human wants, however defined. For such a strategy to be sustainable, it must not threaten the health or the productive capacity of future generations.

11 The main principle of sustainable development is the creation of a society that is designed as if we planned to stay - that is, it meets human needs without destroying the environmental, social or economic base upon which we depend.

12 For development to be sustainable it must take account of social and ecological factors, as well as economic ones; of the living and non-living resource base; and of the long- and short-term advantages and disadvantages of alternative actions.

13 Sustainable development is about marrying the twin objectives of producing more ... and enhancing our environment at the same time.

14 Sustainable development is using, conserving and enhancing the community's resources so that ecological processes, on which life depends, are maintained and the total quality of life, now and in the future, can be increased.

15 The common use of the word 'sustainable' suggests an ability to maintain some activity in the face of stress. We thus define agricultural sustainability as the ability to maintain productivity, whether of a field or farm or nation, in the face of stress or shock.

16 Defining ecological sustainability is by no means an easy task. Optimal resource and environmental management is only one aspect of sustainability - social equity and cultural issues are also fundamental.



RESOURCE 2

WHAT IS ECOLOGICALLY SUSTAINABLE DEVELOPMENT?

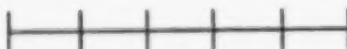
Instructions

- 1 Place the Statement Cards face down on the table.
- 2 Take it in turns to select a card and read it to the rest of the group. Refer to Resources 3 and 4. Discuss and answer the following questions for each statement:
 - (a) Which of the aspects of sustainability does the author favour?
 - (b) Which of the aspects of development does the author favour?
 - (c) Are there any contradictory statements made by this author?
 - (d) Who do you think made this statement? (Was it a politician, a member of an industrial group, a scientist, an economist or an environmentalist?)
- 3 Now look again at statements numbers 3, 6, 10 and 13. Mark on the values continua (Resource 3) where you think each of these statements should be by putting the number of the statement at the appropriate spot.
- 4 Join each of the numbers with a different coloured pen. Is there any common pattern? What can you say about the different values that are behind these statements?
- 5 What do you think 'ecologically sustainable development' means? Try to write your own statement, including in it the main elements of ecologically sustainable development, and be prepared to discuss the importance of these elements.

RESOURCE 3

VALUES CONTINUA

Supports the preservation of the natural environment



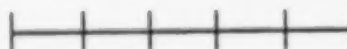
Encourages the exploitation of the natural environment for human needs

Supports zero economic growth



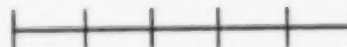
Supports high economic growth

Supports fairness between all species for the present generation (intragenerational equity)



Does not support intragenerational equity

Supports fairness for future generations (intergenerational equity)



Does not support intergenerational equity

RESOURCE 4

ASPECTS OF SUSTAINABILITY

Although a complete definition of sustainability would include all of the following aspects, some definitions may only include one or two.

1 Economic sustainability

Economic sustainability means that development is economically efficient and that the benefits of such development are distributed between generations. Economic efficiency means that processes and projects undertaken must give the greatest output per unit of input.

2 Social sustainability

Social sustainability requires that development not cause social conflict. In practice this means that development should increase people's control over their lives - that all social groups should have the opportunity to participate in decision making.

3 Cultural sustainability

Cultural sustainability requires that any development should take into account the values of the people affected by it. In addition, the range of cultural groups should be maintained and encouraged, and the value of their heritage and traditions recognised.

4 Ecological sustainability

Ecological sustainability means that development should take into account the maintenance of ecological processes, biological diversity and biological resources. To achieve this, our society needs to recognise that the survival and well-being of other species are also important.

RESOURCE 5

ASPECTS OF DEVELOPMENT

The word 'development' literally means a process of change. But what is it we are trying to change? Here are some ideas:

- Development is helping others to help themselves.
- Development is the process by which all humanity moves to live with dignity and a just share in the world's resources.
- Development is progress towards a higher standard of living for every person in a region or nation.
- Development is a form of imperialism whereby the rich nations exploit the poor.
- Development is the attempt to ensure that, as nations change and increase their production per head, there is a better distribution of wealth, so that every person has his/her basic needs met and as many as possible of his/her wants satisfied.
- Development is the growing capacity of a society to incorporate change.
- Development is sharing the world's wealth more equitably. It is sharing our world.
- Development is economic growth measured in terms of the improvement in national product.
- Development is the satisfaction of mass needs by packaged solutions.



RESOURCE 6

SOURCES OF ESD DEFINITIONS

The statements on sustainable development have been adapted from the following sources:

Statement 1: Prof. Ralph Slatyer (former Science Adviser to the Prime Minister), quoted in L. Zarsky (1990) *Sustainable Development: Challenges for Australia*, AGPS, Canberra.

Statement 2: Australian International Development Assistance Bureau (1989) *Development Dictionary: A Glossary of Aid and Development Terms*, AGPS, Canberra. [AIDAB is an official government aid agency that is part of the Department of Foreign Affairs and Trade. It is responsible for administering Australia's overseas aid program.]

Statement 3: Ian Lowe (1990) Sustainable development: How do we get there?, *Australian Society*, June, No. 5. [Associate Professor Ian Lowe is the Director of the Science Policy Research Centre attached to the Division of Science and Technology at Griffith University and is a former Director of the Commission for the Future.]

Statement 4: World Commission on Environment and Development (1987) *Our Common Future*, Oxford University Press, Oxford. [The WCED was an independent international body consisting of twenty-three commissioners, including prominent political figures and leaders in environment and development.]

Statement 5: Robert Repetto (1986) *World Enough and Time*, Yale University Press, New Haven. [An economist]

Statement 6: Robert Goodland and G. Ledoc (1987) Neoclassical economics and principles of sustainable development, *Ecological Modelling*, 38. [At the time of writing, Goodland and Ledoc worked for Environmental and Scientific Affairs, Projects Policy Department, World Bank, Washington, DC.]

Statement 7: Robert Allen (1980) *How to Save the World*, Kogan Page, London, p. 23.

Statement 8: James Coomer (1979) The nature of the quest for a sustainable society, in J. Coomer, ed., *Quest for a Sustainable Society*, Pergamon Press, Oxford.

Statement 9: Prime Minister Margaret Thatcher, Speech to the Royal Society, UK, 27th September 1988.

Statement 10: The Commission for the Future (1990) A sustainable future for Australia, in *Our Common Future*, Australian Edition, edited by Stephen Dovers, p. 25. [The Commission for the Future was established by the Commonwealth Government to encourage Australians to become involved in the economic and social opportunities made possible by scientific and technological development. Their function is to explain the social impacts of science and technology and to foster the development of an innovative, productive culture.]

Statement 11: Canadian University Services Overseas, *Here to Stay: A Resource Kit on Environmentally Sustainable Development* (publication date unknown). [CUSO is an international development agency based in Canada. The organisation works to promote understanding and action on international development issues and to foster relationships of support between Canadian and overseas groups working for social change.]

Statement 12: John Woodley (1990) Summary of the Australian Democrats Policy Statement, in *Queensland Action for World Development Newsletter*, No.3, May. [John Woodley is a Uniting Church Minister and Senator for the Australian Democrats in the Australian Parliament.]

Statement 13: Barry Rowe (1990) Minister for Agriculture and Rural Affairs, AAP news bulletin, 6th September.

Statement 14: Australian Commonwealth Government (1990) *Ecologically Sustainable Development: A Commonwealth Discussion Paper*, June.

Statement 15: Gordon Conway and Edward Barbier (1988) After the Green Revolution: Sustainable and equitable agricultural development, *Futures*, 20 (6), p. 653. [At the time of writing Gordon Conway was the Director and Edward Barbier the Associate Director of the Sustainable Agricultural Program at the International Institute for Environment and Development attached to the London Environmental Economics Centre.]

Statement 16: Australian Conservation Foundation, Greenpeace (Australia), The Wilderness Society and World Wide Fund for Nature (1990) *Ecologically Sustainable Development*, ACF, Fitzroy.



RESOURCE 7

UNIT PLANNER

YEAR LEVEL _____ KEY ISSUE _____

Focus Questions	Strategies	Process/Skill Objectives	Affective Objectives	Resources Needed	Evaluation Assessment

RESOURCE 8

KEY SUSTAINABLE DEVELOPMENT ISSUES

POPULATION AND HUMAN RESOURCES

- World population will pass the 8 billion mark by the year 2025.
- The most rapid population growth occurs in the Third World countries, e.g. Africa, Asia and Latin America.
- The degree of consumption of resources per capita differs markedly between the Third World and industrialised nations.
- Health status, education levels and social conditions also differ greatly.

FOOD SECURITY

- There is widespread famine despite the dramatic increase in the world production of cereal (x 2.5), meat (x 3) and milk (x 2) between the years 1950 and 1985.
- The increase in food production has been due to the use of new seed varieties, chemical fertilisers and pesticides, and increased irrigation, all of which can be beyond the reach of the small farmers.
- New methods also have detrimental effects on the environment. New seed varieties are not generally resistant to pests and require large amounts of water and chemicals to sustain them. Overuse of chemical pesticides and fertilisers has led to widespread pollution of water and biological magnification of these chemicals in food chains. Irrigation has caused salinisation and alkalinisation of soils.
- Farm subsidies in industrialised nations result in overuse of land and chemicals and affect the terms of trade in Third World countries.
- Third World debt leads to the use of land to produce cash crops for export, which pushes subsistence farmers onto marginal lands and thus causes widespread soil degradation.

THE URBAN CHALLENGE

- By the year 2000, about 50 per cent of the world's population will live in urban communities.
- Between 1950 and 1985 the cities of industrialised countries have doubled in population, while in the Third World countries the population has quadrupled.
- Population pressure has resulted in inadequate urban infrastructure and services.
- The most prominent problems are unemployment, poor housing conditions and environmentally and socially related health concerns.

ENERGY

- It is estimated that by the year 2025 global energy consumption will have increased by 40 per cent over 1980 figures.
- The most used energy sources for commercial energy production and consumption are as follows:
 - fossil fuels (oil 40 per cent, coal 30.3 per cent and gas 19.7 per cent);
 - hydropower (30 per cent) and nuclear power (15 per cent), which are becoming increasingly important in the generation of electricity;
 - biomass fuels (wood, crop residues and dung), which the majority of the Third World rely on for their energy supplies
- Renewable energy amounts to only 21 per cent of the total energy consumed worldwide. Solar, wind, geothermal and alternative energy sources such as ethanol have found only limited, small-scale use.
- The dependence on fossil fuels, which are finite, has resulted in four major problems:



- large-scale climatic change resulting from the emission of CO_2 (greenhouse effect);
 - urban air pollution;
 - acidification as a result of the release of SO_x and NO_x during combustion;
 - depletion of the resource and resultant international conflict.
- Nuclear power has its own problems:
 - health risks to workers involved in its production and disposal of the wastes;
 - health risks to the community;
 - risk of catastrophic accident;
 - need for very strict security.

INDUSTRY

- Between 1950 and 1987 the production of manufactured goods increase sevenfold and the production of minerals threefold.
- Trade in manufactured goods has increased relative to trade in primary products, particularly in the Third World.
- The pattern of industrialisation in the Third World mirrors that of the industrialised nations and presents similar environmental problems.
- The ability of Third World countries to deal with such problems as the disposal of hazardous wastes and industrial pollution has not been as great as in the industrialised nations, where significant progress has been made in the last decade.

SPECIES AND ECOSYSTEMS

- The estimated total number of species on earth ranges from 5 to 30 million.
- The most biodiverse ecosystems are the wet tropical forests.
- A conservative estimate indicates that the forests of Latin America could contain 1 million species of flora and fauna.
- The depletion of the gene pool has serious implications for the global economy, since a substantial proportion of the production of medicines and drugs depends on species found in the tropical forests.
- The WCED estimates that the value of these pharmaceuticals in the USA alone is \$14 billion per year.

MANAGING THE COMMONS

- Environmental problems concerning the oceans include, in particular, overfishing and marine pollution.
- By the year 2000 the sustainable catch from world fisheries could be exceeded by as much as 30 million tonnes (FAO figures).
- Sources of marine pollution include municipal sewage, industrial and agricultural run-off, oil spills and the dumping of toxic and other hazardous wastes.
- Management of the oceans is regulated by the Convention on the 1972 Prevention of Marine Pollution by Dumping of Wastes and other Matter (London Dumping Convention) and the 1982 UN Law of the Sea Convention.
- Management of the Antarctic continent is governed by the Antarctic Treaty System.
- The dominant issue facing nations that are signatories to the Antarctic Treaty System has been the extent to which there should be mining of the continent's minerals and the exclusion of some Third World nations from much of the decision making.
- Management of outer space by the 1967 Outer Space Treaty has not been endorsed by all nations.
- The increasing amount of space 'junk' is a pollution problem that has been largely overlooked. It indicates the need for international agreements on the issue.

CONFLICT AND ENVIRONMENTAL DEGRADATION

- environmental degradation caused by such factors as overexploitation of the land, drought and global climatic changes leads to deepening poverty and famine, which in turn contribute to social unrest and conflict.
- The threat of nuclear war presents us with the possibility of unprecedented global ecosystem destruction.
- Military expenditure estimated at \$US900 billion in 1985, diverts funds from the urgent environmental problems facing Third World nations.

READING 1

NATURE OF ECOLOGICALLY SUSTAINABLE DEVELOPMENT

Source: Macleod, H. (1992) *Teaching for Ecologically Sustainable Development*, Queensland Department of Education, Brisbane.

The term 'sustainable development' was originally used by the World Commission on Environment and Development (WCED) in a report published in 1987 entitled *Our Common Future*. The aim of this report, also known as the Brundtland Report after the Chair of the commission and former Prime Minister of Norway, Gro Harlem Brundtland, was to examine the environmental and developmental problems of the world and to suggest practical ways to alleviate them. In particular, the WCED outlined three general objectives:

- to re-examine the critical environmental and development issues and to formulate realistic proposals for dealing with them;
 - to propose new forms of international co-operation on these issues that will influence policies and events in the direction of needed changes; and
 - to raise the levels of understanding and commitment to action of individuals, voluntary organisations, businesses, institutes, and governments.
- (WCED 1987, pp. 3-4)

The report was the culmination of three years of public hearings and over five hundred written submissions, and the analysis of this material by commissioners from twenty-one countries. The final report was submitted to the United Nations General Assembly at its 42nd Session in 1987.

Key issues

In order to examine the global situation the WCED identified eight key issues (see boxes in this section for evidence and recommendations):

- population and human resources
- food security
- the urban challenge
- energy
- industry
- species and ecosystems
- managing the commons
- conflict and environmental degradation

Analysis of the evidence

One of the most important outcomes of the report was that it changed the thinking of many of the commissioners involved. The evidence collected indicated quite clearly that the 'either environment or development' debate was inappropriate and that environmental and economic issues are interconnected. The WCED's resulting analysis concluded that:

Environment and development are not separate challenges. Development cannot subsist on a deteriorating environmental resource base; the environment cannot be protected when growth leaves out of account the costs of environmental destruction. These problems cannot be treated separately by fragmented institutions and policies. They are linked in a complex system of cause and effect (WCED 1987, p. 37).

The WCED therefore argued for an approach to development that would take into account the relationship between environmental and developmental issues. The WCED referred to 'sustainable development', which it defined as: development that meets the needs of the present without compromising the ability of future generations to meet their own needs (WCED 1987, p. 43).

However, the WCED maintained that sustainable development was not likely to be achieved unless two factors contributing to the present inequitable and therefore unsustainable structures of the world were addressed.

The first of these — poverty — was recognised to be both a major cause and an effect of global environmental problems. The cycle of poverty forces the poor countries to grow unsuitable cash crops for export and to overexploit marginal lands, which in turn leads to increased degradation of the environment and deepening poverty.

The second of these factors — the global population growth rate — is more complex. Certainly the exponential growth rate of the world's population cannot be sustained by the finite resources of the world. It would be easy to conclude that the burgeoning populations of the Third World bear the major responsibility for environmental degradation and that checking their population growth would solve the most serious environmental problems. However, this is to ignore the fact of unequal distribution of resources. It has long been recognised that the statement 'hunger is caused by overpopulation' is a myth. At present there is enough food for everyone, but the rich industrialised nations consume more than their fair share. Feeding the rich nations has meant that in many countries the poor have lost the land from which they fed themselves and at the same time the means to buy food elsewhere.

The WCED's answer to these problems is renewed and vigorous economic growth. It is this statement that has been the source of most controversy. The present economic system is deemed by many to be the origin of the unequal and unsustainable world order in the first place. The WCED does, however, go on to qualify its call for economic growth by emphasising the need for qualitative rather than quantitative growth, and growth that is shared equally by all. Nonetheless, the WCED's challenge to produce a redefinition of growth has not been made clear. It has resulted in much confusion about what ecologically sustainable development means in practice.

Conclusions

The WCED not only outlined specific recommendations to address the key issues but also set out the means necessary to achieve sustainable development policies:

- revive growth
- change the quality of growth
- meet essential needs for jobs, food, energy, water, and sanitation
- conserve and enhance the resource base
- ensure a sustainable level of population
- reorient technology and manage risks
- integrate environment and economics in decision making
- reform international economic relations
- strengthen international co-operation

In practical terms, these objectives could be achieved by developing:

- a political system that secures effective citizen participation in decision making;
- an economic system that is able to generate surpluses and technical knowledge on a self-reliant and sustained basis;

- a social system that provides for solutions for the tensions arising from disharmonious development;
 - a production system that respects the obligation to preserve the ecological base for development;
 - a technological system that can search continuously for new solutions;
 - an international system that fosters sustainable patterns of trade and finance;
 - an administrative system that is flexible and has the capacity for self-correction.
- (WCED 1987, p. 65)

Implications for public policy

For policy makers, the clear message of the Brundtland Report is that the problems we face are largely a result of the fragmented nature of the government system(s). In these governments, those who are responsible for environmental concerns are separated from those with responsibility for developmental concerns. However, the WCED's report has demonstrated that environmental problems are inextricably linked with poor development, and development cannot continue indefinitely with depleted environmental resources. Evidently the goal of ecologically sustainable development requires that ecological principles be included with economic principles on the policy agenda of all countries.

In 1991, the Australian Government released the discussion paper *Ecologically Sustainable Development*. The paper outlined five general principles as the key elements of ecologically sustainable development:

- integrating economic and environmental goals in policies and activities;
- ensuring that environmental assets are appropriately valued;
- providing for equity within and between generations;
- dealing cautiously with risk and irreversibility; and
- recognising the global dimension.

(AGPS 1990, p. 2)

The document's 199 clauses include detail as to how these principles might be applied to general policy and in the main industry sectors (agriculture, forestry, fishing, mining, energy, manufacturing, transport and tourism).

The Government's discussion paper has been criticised to some extent by some prominent environmental groups in a joint submission also called *Ecologically Sustainable Development*. The groups comprised the Australian Conservation Foundation, Greenpeace, the Wilderness Society and World Wide Fund for Nature. The submission argued that the principles are inadequate because they:

- do not address equity issues;
- reinforce the traditional model of economic growth as a matter of course;
- overlook the contribution of consumption and lifestyle patterns to the problem of waste and pollution;
- fail to set goals and targets;
- omit population as a policy issue.

Despite these criticisms, the environmental groups, with the exception of the Wilderness Society* agreed to be involved in the nine working parties set up after distribution of a discussion paper to address key industrial issues. These working parties included representatives from government, science, the community, industry and trade unions. The groups' reports were publicly released on 2 December 1991. Since then Government groups have been working towards a framework strategy to be considered in May 1992.

* After the introduction of the Resource Security Legislation by the Federal Government in March 1991, Greenpeace (Australia) withdrew from the process.

READING 2

WHY EDUCATION FOR ECOLOGICALLY SUSTAINABLE DEVELOPMENT?

Source: Macleod, H. (1992) *Teaching for Ecologically Sustainable Development*, Queensland Department of Education, Brisbane.

In recent years the general community has become increasingly aware of the adverse environmental and social effects of our contemporary lifestyles. The 'greenhouse effect' and 'ozone hole' are high-profile issues that receive a great deal of attention. However, there are other pressing environmental and social problems, such as pollution (in all its forms), soil degradation, resource depletion, the loss of biological diversity through species destruction, unemployment, poverty and famine. These problems all indicate that our prevailing lifestyles are unsustainable. They combine to present us with a crisis that is global in its dimensions and without precedent in history. The philosophy of ecologically sustainable development (ESD) is a response to this crisis. It is a philosophy that seeks to integrate the ecological and economic principles that govern our lives.

However, there appears to be little consensus about what ESD means in practice. Until now the discussion has tended to revolve around the 'growth versus no growth' debate. There are those who argue for zero or negative economic growth on the grounds that high economic growth has created the environmental problems. On the other hand, there are those who would contend that zero or negative economic growth would create extreme hardship for most of the world's poor. Such a debate is misleading, because what we really need is to work towards a qualitative change in the nature of development - development that is measured by qualitative rather than quantitative indicators. This redefinition of 'development' should form the basis of ESD.

The acceptance of the concept of ESD on the political agenda (at local, national and global levels) reflects current trends toward integrated, longterm planning and decision making. Such trends can also be identified in education. However, the concept has particular importance for students and teachers of Senior Geography because it springs from a consideration of the same process that is fundamental to the study of geography: the interaction between people and the environment.

Moreover, because most of today's decision makers will be dead before the full impact of the global environmental crisis is felt, young voters and future decision makers should be encouraged to think and act in holistic and far-sighted ways.

In the foreword of the report by the World Commission on Environment and Development (WCED), Gro Harlem Brundtland states that:

... our message is directed towards young people, whose well-being is the ultimate goal of all environment and development policies. In particular, the Commission is addressing the young. The world's teachers will have a crucial role to play in bringing this report to them (WCED 1987)

Although the Chair of the WCED mentioned the importance of the role of educators and youth in the report, there were no clear statements or recommendations made about the direction that education for ecologically sustainable development (ESD) should take. In fact a notable omission from the list of recommendations on pages 2 and 3 of *Our Common Future* is a statement regarding the education system.

While it is essential that the present generation of policy makers be educated about Ecologically Sustainable Development and its implications, the achievement of long-term success is clearly in the hands of future generations. Thus education for ESD should strive to:

- clarify the concept of ESD;
- develop understanding of ecological and economic principles;
- promote critical analysis of the relationship between ecological and economic principles;
- include positive models and successful case studies of ecologically sustainable development in action;
- promote values and personal actions that are integral to the achievement of ecologically sustainable development;
- encourage active participation in decision making regarding ecologically sustainable development.

CONSUMING *for* SUSTAINABILITY

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INTRODUCTION

Consuming preoccupies most people in Australia and in other First World nations and in varying ways, most people of the rest of the world. The ways in which we consume have a profound impact on the well-being of people and of the planet. If we are to act to bring about a more sustainable future, all of us will need to think critically about our consuming practices, and act in ways that are more ecologically defensible.

This workshop acknowledges a substantial tradition of consumer education - one that has undergone important changes in emphases over past decades. Conventionally, consumer education has aimed to help people buy the 'best' product or service at the 'best' price. The major criteria have been quality of performance of the product or service, and price. Under the impact of a growing environmental consciousness, consumer education has undergone a 'greening'. Criteria related to environmental impact have been added to the conventional criteria of quality and price. However, both 'green consumerism' and 'green consumer education' can be seen as insufficient by those advocating a sustainable future.

In going beyond 'green consumer education', this workshop challenges participants to consider a more comprehensive and radical concept of sustainability - grounded in the interdependent values of peace, justice and environmental sustainability. This concept is labelled 'ecological', in the sense that it embodies a profound sense of the complex connectedness of social and natural phenomena. In this sense, a sustainable world is one in which all dimensions of connectedness flourish in peaceful, just and environmentally sound ways.

Such a concept takes consumer education well beyond the pursuit of 'the bargain', and beyond the aim of environmental conservation, to a curriculum aiming at the well-being of individuals, communities and the natural environment at all levels from the local to the global.



The process fundamental to this approach is critical thinking - a process that identifies hidden assumptions, evaluates alternatives and leads to ethical choice.

The workshop exemplifies an approach that could be applied to any form of consumption of product or service.

OUTCOMES

This workshop aims to raise for consideration an expanded and critical idea of sustainability, and to highlight ways in which people's practices as consumers could be guided by that idea of sustainability. The principles and procedures developed in the workshop could provide a framework for consumer education in the social education curriculum. In particular, the workshop aims to develop:

- an understanding of the limitations of 'green' consumerism;
- an understanding of a comprehensive concept of sustainability;
- ways in which that concept could be developed within a social education curriculum;
- proficiency in devising appropriate teaching/learning approaches reflecting a comprehensive concept of sustainability and a commitment to critical pedagogy; and
- a commitment to teaching for sustainability.

WORKSHOP OUTLINE

After a warm-up activity, there are seven related phases in this workshop:

1. Green Consumerism

Participants analyse some "green advertisements".

2. Ecological Consumerism

More advertisements are analysed to help participants appreciate the limits of green consumerism and understand the principles of ecological consumerism.

3. Being Critical

A mini-lecture which explores the basis of critical thinking in critical theory and the need for a critical pedagogy.

4. Critical Questions About Consumerism

Participants develop, and then review, a set of critical questions in order to develop an ecological analysis of consumerism.

5. The P-CAR

Participants use critical questions from the previous activity to conduct an ecological analysis of an advertisement for the P-CAR, and then draw a concept web to explore the broader implications of owning and driving a P-CAR.

6. Web for Another Product

Participants draw another concept web to analyse the social and environmental implications for a chosen product or service.

7. Review and Evaluation

The workshop concludes with a review of the value and practicality of approaching the issue of consumerism in the ways presented in the workshop.



MATERIALS REQUIRED A) PROVIDED

OVERHEAD TRANSPARENCY MASTERS

OHT 1: Is SUPERMARKET Really Green if ...?

OHT 2: Some 'Cons' in Green Consumerism.

OHT 3: Is it Really Sustainable if ...?

OHT 4: Principles of Ecological Consumerism

OHT 5: Critical Theory, Critical Thinking and Critical Pedagogy

OHT 6: Advertisement for the P-CAR

OHT 7: Questions for the P-CAR driver?

OHT 8: P-CAR and Critical Perspectives (Uncompleted web)

OHT 9: P-CAR and Critical Perspectives (Completed web)

OHT 10: Proposed Activities

RESOURCES

Resource 1: Globingo

Resource 2: SUPERMARKET

Resource 3 (A) - (E): Set of items for Activity 2

Resource 4: An Ecological Analysis of Consumerism (blank proforma)

Resource 5: An Ecological Analysis of Consumerism (completed proforma)

Resource 6: Proposed Activities (Print copy of OHT 10)

READINGS

Reading 1: Huckle, J. (1990) Green consumerism - exploring the contradictions,
Annual Review of Environmental Education, No. 3, pp. 37-39.

B) TO OBTAIN

Activity 4: Resources 4 and 5 are each provided on two A4 sheets (Parts 1 and 2).
These two parts need to be pasted side by side on A3 sheets prior to photocopying.

Activity 5: Butcher's paper, felt pens



ADDITIONAL READINGS

The following readings may be used as background sources for preparing the mini-lecture on critical thinking, critical theory and critical pedagogy in Activity 3.

- Bates, R. (1988) *Evaluating Schools: A Critical Approach*, Deakin University Press, Geelong.
- Bigelow, W. (1990) Inside the classroom: Social vision and critical pedagogy, *Teachers College Record*, 91 (3), 437-448.
- Freire, P. (1972) *Pedagogy of the Oppressed*, Penguin, Harmondsworth.
- Freire, P. (1974) *The Politics of Education: Culture, Power and Liberation*, Bergin and Garvey, South Hadley, Mass.
- Freire, P. and Shor, I. (1987) *A Pedagogy for Liberation: Dialogues on Transforming Education*, Bergin and Garvey, South Hadley, Mass.
- Gibson, R. (1986) *Critical Theory and Education*, Hodden Stoughton, London.
- Giroux, H. A. (1981) *Ideology, Culture and the Process of Schooling*, Temple University Press, Philadelphia.
- Giroux, H. A. (1983) *Critical Theory and Educational Practice*, Deakin University Press, Geelong.
- Giroux, H. A. (1983) *Theory and Resistance in Education: A Pedagogy for the Opposition*, Bergin and Garvey, South Hadley, Mass.
- Giroux, H. (1988) *Schooling and Democracy: Critical Pedagogy in the Modern Age*, Routledge and Kegan Paul, London.
- Giroux, H. and Purpel, D. (1982) *The Hidden Curriculum and Moral Education*, McCutcheon, Berkely.
- Giroux, H. A. and McLaren, P. (1989) *Critical Pedagogy, the State and Cultural Struggle*, State University of New York Press, Albany.
- Kemmis, S. (1988) *The Action Research Reader*, 3rd ed., Deakin University Press, Geelong.
- Kemmis, S. et al (1983) *Oriensations to Curriculum and Transition: Towards the Socially-Critical School*, VISE, Melbourne.
- Kemmis, S. and Carr, W. (1986) *Becoming Critical: Education, Knowledge and Action Research*, revised ed., The Falmer Press, Lewes.
- Kemmis, S. and Stake, R. (1988) *Evaluating Curriculum*, Deakin University Press, Geelong.
- Kretovics, J.R. (1985) Critical literacy: Challenging the assumptions of mainstream educational theory, *Journal of Education*, 167 (2), 50-62.
- Livingstone, D.W. et al (1987) *Cultural Pedagogy and Cultural Power*, Macmillan, New York.
- Richardson, R. (1990) *Daring to be a Teacher*, Trentham Books, Stoke-on-Trent.
- Shor, I. (1980) *Critical Teaching and Everyday Life*, South End Press, Boston.
- Simon, R.I. (1983) But who will let you do it? Counter-hegemonic approaches to work education, *Journal of Education*, 165 (3), 235-256.
- Simon, R.I. (1987) Empowerment as a pedagogy of possibility, *Language Arts*, 64 (4), 16-28.
- Simon, R.I. (1988) For a pedagogy of possibility, *Critical Pedagogy Neworker*, 1 (1), 1-4.
- Smyth, W.J. (1987) *A Rationale for Teachers' Critical Pedagogy: A Handbook*, Deakin University Press, Geelong.

ACTIVITIES

1. GREEN CONSUMERISM

Warm-up and focussing activity:

Begin with the activity in Resource 1 which focuses on people's consuming activities. The activity serves to promote interaction amongst participants. It should also touch on the problematic nature of consuming, and the complex challenges to consumer education.

- Refer to the phenomenon of 'green consumerism'. Ask participants what they think the term describes. Share some responses.
- Indicate that they are to see an example of a 'green consumerism' advertisement. Hand out the SUPERMARKET advertisement text (Resource 2). Ask participants to read the text and, individually, write a statement completing the sentence 'Is SUPERMARKET Really Green if?'
- Once participants complete the sentence, they could share sentences with neighbours. When most or all are finished, ask for some responses to be read to the group. Make a whiteboard list of 'objections' to the supermarket's claim to be environmentally responsible. Display OHT 1 to explore the question: 'Is SUPERMARKET Really Green if ...?'
- Suggest that there have been many examples of such 'green' advertisements. Ask if participants can nominate any. Then display OHT 2 on 'Some Cons in Green Consumerism'.

2. ECOLOGICAL CONSUMERISM

Reading 1 on 'Green Consumerism: Exploring the Contradictions' by John Huckle provides many concepts which can inform and enrich this section.

- Suggest that there is a difference between being 'green' and being 'sustainable'. In pursuit of this suggestion, hand out a number of items, one to each of a number of groups [Resource 3(A)-(E)].
- For each item, ask the group to complete a sentence, 'Is it really sustainable if?' in order to identify some criteria of sustainability. If this task appears to puzzle the participants at all, suggest that the term 'sustainable' might be expanded from meaning just 'materially capable of continuing' to meaning 'socially worthwhile and ethically desirable' as well.
- On completion, ask each group in turn to describe its item, and to read out their completed sentence(s). These sentences should refer to the factors of class, gender, human health, global injustice, etc.
- Display OHT 3 to explore 'Is it really sustainable if ...?'
- Display OHT 4 of 'Principles of Ecological Consumerism'. Ask for comments.

3. BEING CRITICAL

Use OHT 5 on critical thinking as the basis of a mini-lecture to link the factors 'uncovered' in the previous phase to the ideas of critical theory, critical thinking and critical pedagogy. Use the questions 'Whose interests are being served?' and 'What fundamental assumptions underpin this phenomena?' to provide a simple but valid reference point for these complex ideas. The Additional Readings provide valuable background on the nature of critical theory and critical pedagogy. Especially note Chapter 1 of Rex Gibson's 1986 book, *Critical Theory and Education*, is most valuable in this regard.

4. CRITICAL QUESTIONS ABOUT CONSUMERISM

- Hand out blank proforma 'An Ecological Analysis of Consumerism' (Resource 4).
- Ask each participant to select an intersecting point on the proforma (eg: retailing - social justice) and to devise a generic question, useable in the classroom for that point. (eg: Are all employees in the retailing operation paid fair wages?)
- When completed, ask some participants to share their questions with the group.
- Then hand out the completed proforma 'An Ecological Analysis of Consumerism' (Resource 5). Have participants compare the proforma's question with their question. Next have participants locate the proforma question applicable to the item they studied in Activity 2. Then they should carry on to skim read the whole proforma.

5. THE P-CAR

- Display the advertisement for the P-CAR (OHT 6). Perhaps read it out aloud, with dramatic emphasis. Propose that the group explores the extent to which the advertisement, and the practices it represents, are sustainable.
- To this end, ask participants to locate some proforma questions (from Resource 5) which are applicable to the P-CAR situation. Then have a brief sharing of decisions made.
- Display OHT 7 of sample 'Questions for the P-CAR Driver'.
- Then introduce the idea of a concepts/issues web that locates P-CAR driving at the centre, and links to dimensions of peace, human rights, development and environment. Display the blank web (OHT 8).
- Have participants, singly or in groups, begin to fill out a similar web diagram on butcher's paper. Display the various results, comparing them and discussing the points that emerge. Then display OHT 9, and ask participants to compare it with their work.
- Ask participants, singly or in groups, to select one of the concepts/issues from the web, and propose an appropriate teaching/learning activity to develop that concept/issue with students. As participants report their proposal, write their suggestions on OHT 10. Participants will have already been given a print copy of that OHT (Resource 6). As reports are given, they too can write in the details.

6. WEB FOR ANOTHER PRODUCT

- Ask participants, singly or in groups, to select another consumer focus, if possible one drawn from youth culture (eg: fashion jeans; fast food; popular magazines; soft drink). Have them draw up a web for their choice, and also begin to propose possible teaching/learning activities. Continue this activity only as long as is compatible with leaving sufficient time for debriefing and evaluation.

Richard North's book, *The True Cost*, contains case studies of the social and environmental implications of over thirty goods and services ranging from jeans to hamburgers to computers and is a valuable resource for this activity.

7. REVIEW AND EVALUATION

Review the workshop, focusing on the value and practicality of approaching the issue of consuming in the ways proposed in the workshop. Consider particularly whether such an approach might be too challenging for young people, themselves embedded deeply in consumerist materialism.



OHT 1

Is SUPERMARKET REALLY GREEN IF ...?

Is SUPERMARKET really green if ...

1. the energy required to chill and freeze foodstuffs is enormous, and necessitates burning of much coal or the use of nuclear power?
2. the transportation of the goods to the warehouse, and later distribution from there, uses so much energy, contributes to air pollution and causes road accidents?
3. many of the foodstuffs could be provided in an unprocessed and unrefrigerated condition to consumers, with savings in energy use and pollution?

OHT 2

SOME 'CONS' IN GREEN CONSUMERISM

1. Deliberate lies

One US-based hamburger chain claimed that all its beef was 'US beef' thus countering charges about rainforest being cleared in Central and South America for beef cattle grazing. This claim apparently exploited a legal technicality, whereby beef imported into the USA and then processed can be classified as 'US beef'.

2. Ignorant untruths

In 1989, in the UK, the Rover Car Company claimed in newspaper advertisements that this car was 'capable of running on unleaded petrol. This means that it's as ozone-friendly as it is economical'. When it was pointed out that lead causes brain damage, not ozone depletion, Rover admitted that they (or their advertising copy writers) were 'green with ignorance'.

3. Irrelevant claims

Some washing up liquids have been labelled 'phosphate-free' in an attempt to woo customers, even though those products had never contained phosphates.

4. Partial green credentials

Manufacturers of disposable nappies have claimed that their products are environmentally-friendly because they have begun to use pulp made using a chlorine-free, dioxin-free process. This claim overlooked other factors: the chlorine-free, dioxin-free process, in toxicity tests, killed more fish, through the release of waste water from factories, than the other process. As well, the potential problems of enormous quantities of human faeces being buried in landfill dumps was overlooked.



OHT 3

IS IT REALLY SUSTAINABLE IF ...?

1. the retailing practice involves great danger to human life?
2. the product is advertised in a way that portrays men or women in unrealistic and challengeable stereotypes?
3. the product is made by exploited workers, including children, in other countries?
4. the production involves significant cruelty to animals?

OHT 4

PRINCIPLES OF ECOLOGICAL CONSUMERISM

1. Environmental sustainability

This principle involves a belief that human impact on the non-human environment should be at the least level compatible with meeting reasonable human wants. Rather than an anthropocentric belief that people should exploit nature to the extent that we can 'get away with it', there would be a belief in maintaining the elements of the ecosystem as a 'good thing' intrinsically, and not just in terms of human benefit.

2. Individual sustainability

a) Individual physical health/wellbeing

b) Individual mental wellbeing:

- the maintenance of mental peace, dignity, self-respect,
- freedom from stress

c) Acknowledgement of the relationships between (a) and (b).

3. Social sustainability

The maintenance of social cohesion, cooperation, a sense of community, social peace and justice at all scales from the local to the global.

CRITICAL THEORY, CRITICAL THINKING AND CRITICAL PEDAGOGY

CRITICAL THINKING involves these processes:

- identifying the most deeply-held assumptions within any situation.
- evaluating those assumptions using criteria of peace, social justice and ecological sustainability.
- imagining alternative assumptions, and consequently alternative ways in which situations might be organised.

In this sense, critical thinking has links with CRITICAL THEORY, which attempts to 'unmask' the interests that are served by the way social relations are structured and social life organised. The aim of critical theory is emancipatory. Through critical thinking people can recognise where their interests lie, an begin to act to effect social change in the direction of more just, peaceful and ecologically sustainable ways.

There is an analogy between psychiatry and critical social science. Just as psychiatry seeks through psychoanalysis to expose the deepest causes underlying personal psychosis, so critical social science seeks to expose the deepest causes of such social disfigurements as injustice, violence and ecological devastation. As psychiatry seeks personal emancipation, so critical social science seeks social emancipation.

CRITICAL PEDAGOGY promotes critical thinking amongst students. There are other characteristics usually associated with critical pedagogy, including making space for 'student voice' in negotiation of the curriculum and in the life of the classroom.

OHT 6

ADVERTISEMENT FOR THE P-CAR

This text is taken from an Australian advertisement from a prestigious and powerful imported sports car:

Adrenalin

Imagine this. You're slipping along the highway in your Guards Red P-CAR. The sun is shining brightly, so the electric roof is down. Suddenly, you come upon a set of traffic lights. You stop precisely. Smoothly. Sitting behind the wheel of the family sedan beside you is a rival business associate. He's jaded. You're exhilarated. He's by himself. The road is deserted. You smile sideways and give a little throttle. The P-CAR purr becomes a growl. His knuckles turn white. The lights turn green. What happens next is up to you. Test drive the world's finest sports car today and discover the curative side of Adrenalin.



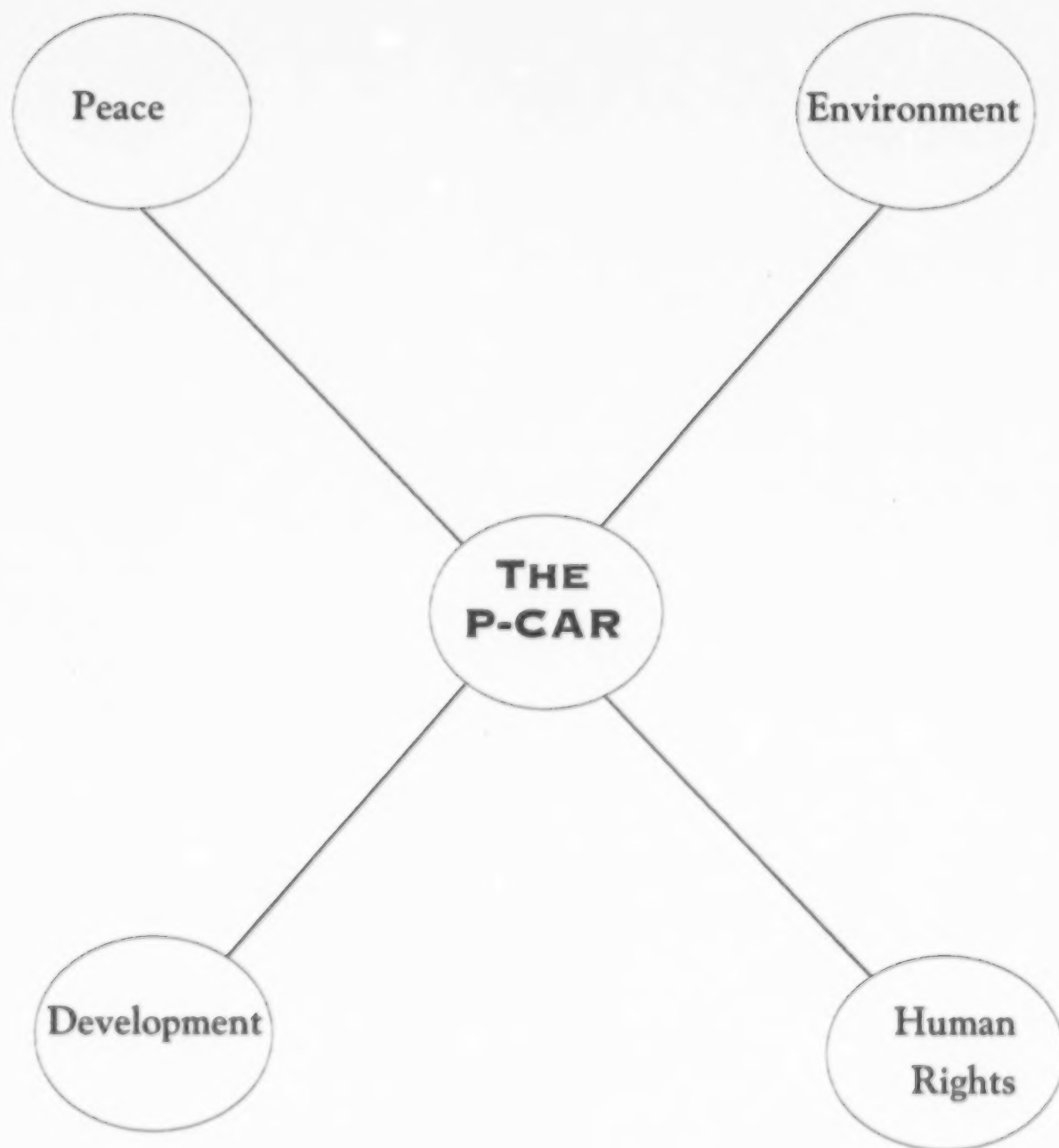
OHT 7

QUESTIONS FOR THE P-CAR DRIVER

Is your lifestyle really sustainable if ...

1. You live a highly stressed executive lifestyle?
2. You can be a winner only by putting other people down?
3. You define your persona by what you drive / wear / eat / own / live in?
4. You contribute more than the average to environmental degradation / pollution (in a country where per capita energy use is 60 times that of some poorer countries)?
5. You have career commitments that are detrimental to family life?
6. You live in constant fear of physical assault / theft / demotion / loss of status / vandalism to the P-CAR?
7. You wonder whether you are liked for what you are, or just for what you have?
8. You are the butt of envy, jealousy, antipathy, scorn?

OHT 8**P-CAR AND CRITICAL PERSPECTIVES**



P-CAR AND CRITICAL PERSPECTIVES



OHT 10

PROPOSED ACTIVITIES

Select one of the concepts or issues from the 'P-CAR and Critical Perspectives' web. Think about possible classroom activities for developing students' understanding of that concept or issue. In the appropriate space below, make some initial notes about that proposed activity.

ISSUE:

Possible Activity	Details of the activity
1. Research	
2. Fieldwork (survey, interview, site study ...)	
3. Debate and discussion	
4. Role play	
5. Simulation	
6. Creative writing	
7. Artistic expression	
8. Other	

RESOURCE 1

CONSUMER BINGO

Move around in the group, meeting other people. Try to locate a person who fits one of the descriptions in the table below. When you do, talk briefly about the particular item. Make a brief note on your table, indicating the name of the person you've met and some details of the item. Then move on to another person, and repeat the process. If you're feeling competitive, try to complete four boxes in a row, in any direction. When you do, feel free to call out "Con-bingo"!

Find someone who ...

A. Likes shopping Name: Details:	B. Owns a 'Swatch' Name: Details:	C. Grows vegetables at home Name: Details:	D. Has bought duty-free goods Name: Details:
E. Looks for environmentally sound products Name: Details:	F. Goes to weekend markets Name: Details:	G. Has a compost heap or bin Name: Details:	H. Has a credit card Name: Details:
I. Prefers to buy Australian made Name: Details:	J. Takes their own carry bag(s) when shopping Name: Details:	K. Has shopped at a Community Aid Abroad shop Name: Details:	L. Likes pizza Name: Details:
M. Recycles bottles Name: Details:	N. drinks tea and/or coffee each day Name: Details:	O. Owns a white car Name: Details:	P. Is wearing jeans Name: Details:

RESOURCE 2

SUPERMARKET

This text is based on an advertisement placed by major British supermarket chain in the London Times in 1989. The advertisement featured graphics of the Arctic and Antarctic polar ice caps, with the text sandwiched between.

To prevent two pieces of ice melting, we've bought a new refrigerator

The fridge we're referring to is somewhat larger than your average domestic variety.

Located in Strathclyde in Scotland, our new refrigerated storage unit will sit on some 41 acres of land within a building of over half a million square feet which will swallow well over 300 000 tonnes of groceries. (Which, to put it in graphic terms, is about 250 fully laden jumbo jets.)

But perhaps what's even more impressive is the bit you can't see.

Heretically sealed into the pipework of our new refrigeration complex is an ammonia gas coolant, which, unlike CFCs, has absolutely no ill effect on the ozone layer. Nor will it contribute to the overall warming of the planet, known as the Greenhouse effect.

As you might expect, a fridge of this magnitude and complexity doesn't come cheap.

By the time it has been installed the whole project will have cost us a cool £27million.

But that's only the tip of the iceberg. We've been investing in the environment in this and other ways for nearly 20 years.

By the end of the year, four of our stores will be equipped with ozone-friendly cooling systems. These will be built from scratch and not bolted onto existing systems.

And there's more planned for next year and the year after that.

As a matter of fact, we don't intend to stop until each and every refrigeration unit in our supermarkets across the country is replaced.

The cost of such an exercise is staggering. But the consequences of doing nothing would be far more chilling.

Source: Adapted from *The Times*, London, 23 September 1989



RESOURCE 3A

TWO ADVERTISEMENTS

1. "My husband says his handkerchiefs
have never been so clean."

What with working as a media rep. in her husband's business, and running a home as well, Shirley needs a thoroughly reliable washer. Married for 30 years, the SUPERMODEL is her third BRAND X. "It gives me much more room in the laundry and takes a big load," she smiled. "I wash every three days and always use the suds save for socks, sheets and underclothes."

As Shirley put it "Who wants to waste water?" Even her husband runs a load through occasionally, and he'd never used an automatic washer before. "He just read the instruction book once, and went ahead."

2. "I always use cold water in my
MINIMODEL."

Mrs Lydia K., originally from Samarkand, and now a resident of Sydney. Dog lover, and full time manageress in a catering company, Lydia still manages to run a home and look after her husband.

Source: *The Australian Women's Weekly*, 20 June 1979

RESOURCE 3B

PIZZA PILOTS ARE UNDER FIRE

Ask an American to name a job more dangerous than a coal miner or steeplejack. The answer might include a pizza deliverer.

Such is the craving for even faster food that pizza cars are now said to be wreaking a disproportionate degree of damage to life and limb.

One pizza home-delivery chain is under investigation in several states and the subject of a university boycott because of a high casualty rate among its drivers, most of whom are students or other part-time workers.

The cause, according to the critics, is the company's guarantee that the pie will be delivered within 30 minutes of the order or the customer receives a refund.

The National Safe Workplace Institute says that 20 people died and many more were injured in 1000 accidents involving this company's drivers alone over the past year. Mr Joseph Kinney, the Institute director, says that this works out at 50 deaths per 100 000 employees, higher than in the building industry, which is one of the most accident prone.

Source: Adapted from *The Times*, London, 16 September 1989, p. 7.



RESOURCE 3C

CHILD WORKERS IN INDIA

The following table indicates the health problems associated with certain occupations in India. Approximately 44 million children in India are involved in full-time employment, many of them in the industries and occupations listed. The products of most of these industries find their way to consumers in the first world, including Australia.

OCCUPATION	DISEASE / DISABILITY
Balloon Factories	Pneumonia, bronchopneumonia, breathlessness and even heart failure
Match Industry Fireworks Industry	Breathing problems, severe burns, muscle fatigue from lifting heavy loads, muscle wastage from long hours of working in one position.
Lock Industry	TB and upper respiratory tract diseases, acid burns, asthma, acute headaches, breathlessness.
Glass Industry	Silicosis and burns. Lifespan reduced by a third due to heat and dust.
Powerloom Industry	Fibrosis and byssinosis.
Slate Industry	Silicosis. Eventually the patient suffocates to death. Few slate workers live beyond the age of 40.
Domestic workers, shop boys, dhaba workers	Overwork, physical and sexual abuse, narcotics. Dependence often develops.
Carpet Industry	Poisoning from colouring agents, lung diseases from dust and fibre dust.

Source: Voluntary Health Association of India, New Delhi.

RESOURCE 3D

THE JOURNEY OF THE TEA LEAVES

This is the opening scene from a play that deals with the tea industry:

NARRATOR (pouring a cup of tea from a tea pot):
Have you had a cuppa today? Tea is one of Australia's most popular drinks and one of the cheapest too. Only three cents a cup, with milk (pours some milk). Have you ever wondered where our tea comes from? Do you know who grows it? Do you know how they get it to us? Today we are going on a long journey - the journey of a tea leaf. Our journey begins on the island of Sri Lanka where some of the world's best tea is grown. The journey ends here in Australia, when I drink this cup of tea (narrator takes a drink of tea). Now let's start our journey and meet Indrani the tea picker who lives and works on a tea estate in Sri Lanka.

INDRANI: Hello, my name is Indrani. I'm 17 years old and work on this government owned tea estate in Sri Lanka. I pluck only the new bud and top two leaves of the tea bush (picks next bush). I'm a skilled plucker so I can gather about 30-35 kilos of green leaf tea in a day. That will produce between 7 1/2 to 9 kilos of manufactured black tea. And for all this I get 24 rupees a day, about \$1 in Australian terms. I'm paid on a daily rate according to how much I pick. Some days I'm turned away because there isn't enough work or when I'm too sick to work, then I'm not paid. I'm taking my full bag of tea down to be weighed and then I'm going home to prepare my evening meal.

Source: L. Waddell (1988) *Learning for a Fairer Future*, WDT Cooperative and NSWGTA, Sydney, p. 59.



RESOURCE 3E

ANATOMY OF A CHEESEBURGER

Jeremy Rivkin has written:

After being fattened to their 'ideal' weight of 1000 pounds, mature steers are herded into trailers for the journey to the slaughterhouse - a journey that may involve travelling along the interstate highways for several days, during which time it is impossible to stop for rest or nourishment - sometimes not even for water. On the way animals fall and are trampled, breaking legs and pelvises. The injured animals are called 'downers'. On arriving, the animals are led to a holding pen; downers - lying spread-eagled on the floor, unable to stand, or chained together by their broken legs - must wait to be unloaded. The animals who have died en route also have a name. They are called the 'dead pile'.

Source: *Modern Times*, April 1992, p. 12.

RESOURCE 4 PART 1

AN ECOLOGICAL ANALYSIS OF CONSUMERISM

	Environmental Damage	Use of Resources	Use of Energy	Animal Welfare	Physical Wellbeing	Mental Wellbeing
Material Source						
Processing						
Transport						
Storage						
Advertising						
Retailing						
Consumption or Use						
Waste Disposal						
			280			



RESOURCE 4 PART 2

Convivial Community	Ownership of Enterprise	Social Justice	Global Justice	Principle of Necessity	Principle of Adequacy	Sense of Ecological Self

RESOURCE 5 PART 1

AN ECOLOGICAL ANALYSIS OF CONSUMERISM

	Environmental Damage	Use of Resources	Use of Energy	Animal Welfare	Physical Wellbeing	Mental Wellbeing
Material Source	Does the production or extraction of the materials used damage the environment?	Are non-renewable resources used as a material source, or in any of the stages of processing, transportation, storage, advertising or retailing of the product?	Is there an unwarranted use of energy in the production of the material or in its processing?	Are animals products involved? If so, are the animals treated well in the various stages of their purchase, holding and use? If animals are killed, is suffering minimized?		
Processing	Does the processing, transportation or storage of the product pollute the environment?	Is there any unnecessary wastage of resources at any stage of the process?		Are animals used in testing the product? If so, how ethical is their treatment?	Is there the danger of physical harm or ill health to people involved in the various stages of production?	Do the various stages of production cause stress, anxiety or loss of self esteem to the workers involved, or to any other people affected?
Transport			Is the product transported or stored in ways that use much energy?		Is there a risk of physical danger in the transportation or storage of the product?	
Storage						
Advertising	Is the product advertised in a way that damages the environment - for example by visual pollution?		Does the advertising of the product use much energy?			Is the product advertised in a way that might induce feelings of stress, anxiety or inadequacy in those exposed to the advertising?
Retailing	Does the retailing process cause environmental damage?		In the retailing of the product, is much energy required - for example, in controlling temperature of store or product, in travel by clients, in delivery of goods?		Is the physical health of workers safeguarded during the retailing process?	Are retail workers subject to stressful or demeaning conditions?
Consumption or Use	Is the environment damaged by the actual use of the product?	Does the use of the product necessitate the further use of other resources?	Is the product one that requires much energy when it is used?	Are animal habitats threatened by any stages in the process?	Does the use of the product endanger the physical health of people?	Does the use of the product cause an unnecessary level of stress?
Waste Disposal	Does the product cause problems of waste disposal?	What provision is there for recovery, reuse or recycling of resources from the process?	- Does the disposal of waste require much energy? - Can the materials be recycled without undue energy required?	Are animal habitats threatened by the location or processes of waste disposal?	Does the disposal of waste pose any threat to the physical health of people, either now or in generations to come?	Can the process of waste disposal cause anxiety in people?



RESOURCE 5 PART 2

Convivial Community	Ownership of Enterprise	Social Justice	Global Justice	Principle of Necessity	Principle of Adequacy	Sense of Ecological Self
• Are communities disrupted or displaced by the production of materials, or by the processing, transportation, storage of the product?	• Are the owners of the stages of production, processing, transportation, storage, advertising, retailing and waste disposal committed to ecological principles of • conservation • sustainability • equity • empowerment of members • community welfare • ethical practice? • Is the enterprise locally owned and controlled, and do profits benefit the local community? • Do the owners recognise the right of workers to organise for their collective benefit? • Do employees participate in decision making and profit sharing?	• Are just workplace relations associated with the production of the materials, the processing, transportation and storage of the product? • Are immigrant workers exploited at any stage of the process?	• Are the people and/or the environments of certain nations exploited for the advantage of others by the ways in which the product is produced, transported, stored, advertised or sold? Do the profits of the enterprise stay in the country?	• To what extent is the product itself a necessity for meeting real human needs? • Could more ecologically sound materials be used, or more ecologically sound methods applied in the enterprise? • Is it necessary that the product be as highly processed, be transported to such an extent, be stored as extensively, or be advertised as heavily?	• In the production and use of the product, is the principle of adequacy applied? Do people use this product in greater quantities or more often than is needed to meet human needs in an adequate way? • Could the product still be adequate for human needs if it were made in a more minimal form?	• Does one's role as a worker in the productive process, or as a consumer, enhance one's sense of 'ecological self' by strengthening a sense of connectedness with the natural environment, with other people and with future generations? • Does it promote a transcendent sense of being human, and an ethical commitment to a purposeful life? • Does it reflect a wish 'to be' rather than 'to have'?
• Is the product advertised in a way that enhances a sense of social cooperation?		• Does the advertising of the product involve discrimination, or stereotyping, or detract from the dignity of people?	• Are certain cultures stereotyped or demeaned by the advertising of the product?			
• Is the product retailed in a setting and manner that encourages social interaction?		• Are retailing employees treated fairly? Does the retailing process involve invasion of privacy?				
• Do the product and its use reflect and enhance the culture of the people and encourage a sense of community? • Can the use of the product be socially divisive or disruptive?		• Is the product available to all people who may need it?	• Is the product available to all peoples of the world who need it?			
• Are communities disrupted by disposal of waste from the product?		• Is the burden of waste disposal borne justly?	• Are waste materials exported unfairly to another country?	• Could the product be more durable, or more amenable to repair, reuse or recycling?		

RESOURCE 6

Select one of the concepts or issues from the 'P-CAR and Critical Perspectives' web. Think about possible classroom activities for developing students' understanding of that concept or issue. In the appropriate space below, make some initial notes about that proposed activity.

Issue:

POSSIBLE ACTIVITY	DETAILS OF THE ACTIVITY
1. Research 2. Fieldwork (survey, interview, site study...) 3. Debate/discussion 4. Role play 5. Simulation 6. Creative writing 7. Artistic expression 8. Other	284

READING 1

Source: Huckle, J. (1990) Green Consumerism - exploring the contradictions, *Annual Review of Environmental Education*, No. 3, pp. 37-39.

Few of our pupils or students can fail to have noticed that 1988/89 saw the re-launch of green consumerism in new and persuasive wrappings. They will have noticed the advertisements for lead free petrol, CFC free aerosols, and other 'environmentally friendly' products, . . . will have watched a succession of media personalities imploring them to join the green consumer revolution, . . . will have noticed some small changes at the supermarket, . . . and may have sat through lessons which, directly or indirectly, blamed them for such environmental problems as the destruction of the rainforests or global warming.

Some of their teachers will be old enough to remember Jonathan Holliman's *Consumers' Guide to the Protection of the Environment*¹, published in 1971. Like the current best-selling *Green Consumer Guide*², this offered background information on environmental problems and their links with consumerism. It provided advice on 'environmentally friendly' products, and suggested strategies whereby individuals could 'change to a way of life more related to the ability of the environment to support our real needs'. Green consumerism was at that time a minority interest amongst more radical environmentalists. It was not significantly co-opted by manufacturers and retailers and it faded from view as the economic recession, of the late 1970s and early 1980s, introduced new concerns.

With the upturn in the economy, and renewed prosperity for some, green

consumerism has re-emerged as part of the current wave of environmentalism³. There are profits in the environment for some branches of capital, and manufacturers and retailers have not been slow to realize the possibilities of green consumerism in markets nearing saturation. While some of their claims have prompted Friends of the Earth to revisit the concept of 'ecopornography' (exploiting green concern) introduced in the earlier consumers' guide, it is the deeper contradictions thrown up by green consumerism which point to its educational potential.

The treadmill of production and consumption

In a classic text of modern environmentalism, Allan Schnaiberg⁴ explains why the analysis of environmental problems cannot be separated from social structures of economic and political power. The pre-occupations of some environmentalists with population growth, resource scarcity, inappropriate technology, or consumer affluence, are misplaced. The fundamental cause of environmental problems lies in forms of economic production and development determined by small minorities with considerable power. Their decisions shape economic development which then shapes population levels, resource use, technological innovation, and patterns of consumption. Any genuine attempt to resolve environmental problems should therefore focus on the democratization of social structures so that the majority are able to realize their common interest in sustainable development and greater social justice.

Schnaiberg describes the accelerating treadmill of production and consumption which formed the foundation of post-war social democracy in countries like Britain. In the interest of capital accumulation or profits, workers, firms, and governments were all sold an ever expanding range of wants and these were satisfied by ever more wasteful and damaging production. The treadmill was not without its benefits but in seeking to delay the onset of economic and political limits in growth, its controllers hastened the approach of ecological limits in a way which earlier environmentalists had predicted. Consumer society delays market saturation and keeps the voters happy, but we are now more aware of the untold damage it does to countless people and environments around the world⁵.

The treadmill lost momentum for a time during the world recession but is now picking up speed again. Its productive forces have been significantly restructured in the past ten years and in Britain this has resulted in significant social and environmental change. There has been an attack on the protection provided by the welfare state, the emergence of new environmental problems linked to the enterprise economy, and a renewed emphasis on individual materialism. Mrs Thatcher's government has used tax cuts, credit, and consumerism to maintain its support but with manufacturing industry largely gone, its policies have precipitated a balance of payments crisis and high interest rates.

The five 'R's point to a green economy

The nature of the treadmill means that attempts to green the economy or patterns of consumption will inevitably raise contradictions unless they transform its underlying logic. During the past year, Sandy Irvine has highlighted the contradictions associated with green consumerism both in an article in *The Ecologist*⁶, and in a letter to *The Guardian*⁷. In his view, it focuses attention on producing and consuming better rather than on producing and consuming differently and less. It diverts attention away from the need for global resource redistribution to enable sustainable development in the South, and it perpetuates the values of consumer society rather than advancing an ethic of sufficiency and greater self-reliance. A truly green consumerism would, in Irvine's view, reflect the five 'R's. It would refuse unnecessary goods and services and would be committed to *reduction*, *reuse*, *repair*, and *recycling*.

In line with Schnaiberg's emphasis on social structures, Irvine also reminds us that there are real limits to what individual consumers can achieve. Putting different goods in our shopping basket may result in worthwhile changes but much of our consumption is determined for us by those with economic and political power. The government's obsession with road building and private transport is one example. An increasing number of people do not have the option of giving up their cars and opting for the bus, train, or tram.

Environmental problems can therefore only be resolved by transforming the treadmill and replacing it with a democratically planned green economy driven by radically different imperatives. There are several guides to how such an economy might work⁸ and these stress the value of such innovations as decentralisa-

tion, appropriate technology, workers' co-operatives, arms conversion, resource taxes, job sharing, and a guaranteed basic incomes for all. Establishing socially useful and ecologically sustainable forms of production and development will require considerable political struggle. This is taking place on numerous sites within society; including schools and classrooms.

What We Consume

In 1984, the World Fund for Nature established its 'Global Environmental Education Programme'. I was asked to co-ordinate a module, *What We Consume*, which would allow pupils to examine the goods and services they consume and their links with environment and development issues around the world. Five of the module's ten units are now published⁹, together with the Teachers' Handbook, and they represent an attempt to establish a more socially useful form of environmental education in our schools. They also provide considerable scope for exploring the contradictions associated with green consumerism.

It is the deeper contradictions thrown up by the green consumerism which point to its educational potential.

What We Consume provides a curriculum framework and classroom activities for teachers wishing to explore the social causes of environmental problems and possible solutions. One hundred original activities, in ten units, link pupils as consumers to economies and societies around the world. They enable them to study different forms of development and underdevelopment, recognise the impact that these have on nature and the environment, and consider alternatives which are more

ecologically sustainable. The activities are designed to investigate key ideas, using key questions and concepts, and these continually focus pupils' attention on social structures and processes. In this way the module develops economic awareness and political literacy within the context of environment and development issues, and also gives prominence to groups which link sustainable development to an extension of democracy.

The module's rationale is fully explained within the Teachers' Handbook. Its chapters explain why environmental education should be regarded as social education. They also provide teachers with an overview of society and nature in the contemporary world and a selection of readings chosen to provoke reflection on the teaching of environment and development issues in schools. The module's units sample the main concern of the World and UK Conservation Strategies and the main forms of political economy found in the modern world. In addition to activities and copyright free activity sheets, they also include articles, photographs, cartoons, and a photoset. I would be interested to learn of *Annual Review* readers' views of the module and of how it is being used in schools.

The struggle for socially useful education

The development of *What We Consume* has not been free from tensions and problems and these may, one day, form the basis of another article. For the moment, it is sufficient to mention that the work continues and that Unit 3, *Our Consumer Society* is my current pre-occupation. The relaunch of green consumerism has therefore come at an appropriate time and the Unit's activities will explore some of the contradictions outlined above. They will also examine the desirability of green socialist al-

ternatives to present forms of production and consumption and in this way, seek to advance socially useful production in our schools.

Just as green consumerism raises questions about what constitutes 'environmentally friendly' production and consumption, so an emphasis upon environmental issues within the science or geography National Curriculum raises questions about what constitutes 'environmentally friendly' schooling. Current developments in both sites throw up contradictions to explore and generate the space within which we can advance critical forms of environmental education. If you are sympathetic to my argument, I hope you will have a look at *What We Consume*.

References

- 1 Holliman J, *Consumers' Guide to the Protection of the Environment*, Pan/Ballantine, 1971.
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- 3 Green consumerism has resulted in numerous guides and magazines including:
Christensen K, *Home Ecology*, Arlington, 1989.
Seymour J & Giradet H, *Blueprint for a Green Planet*, Dorling Kindersley, 1987.
Ethical Consumer, ECRA Publishing Ltd., 100 Gretney Walk, Moss Side, Manchester, M15 5ND.
New Consumer, 52 Elswick Rd., Newcastle upon Tyne, NE4 6JH.
- 4 Schnaiberg A, *The Environment: from Surplus to Scarcity*, OUP, 1980.
- 5 Trainer T, *Abandon Affluence*, Zed Books, 1985.
Trainer T, *Developed to Death*, Green print, 1988.
- Seabrook J, *The Race for Riches*, Green print, 1988.
- 6 Irvine S, 'Consuming Fashions? The Limits of Green Consumerism', *The Ecologist*, 19/3, 1989.

7 Irvine S, 'Five 'R's: an order of priorities for green consumerism', letter to 7, 2.10.89.

8 Hodgson G, *The Democratic Economy*, Penguin, 1984.

Bodington S et al, *Developing the Socially Useful Economy*, MacMillan, 1986.

Dauncey G, *After the Crash: the Emergence of the Rainbow Economy*, Greenprint, 1988.

9 *What We Consume* is published by The Richmond Publishing Company and can be ordered from WWF-UK Education Distribution, c/o The Richmond Publishing Co Ltd, PO Box 963, Slough SL2 3RS.

In addition to co-ordinating 'What We Consume', John Huckle is the author of 'Consuming Interests', a unit in a course on environmental issues to be jointly published by NALGO and the National Extension College in 1990. ■

HEALTH ENVIRONMENT *and* COMMUNITY DEVELOPMENT

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INTRODUCTION

If we are to consider environment and development issues with the broadest of perspectives, then we will ultimately be brought to focus on the rights of humans and nature and the inequitable distribution of wealth and power within and between people, communities and nations. Similarly, if we are to view health issues in the broadest sense, we will come to the same essential points of focus.

The solutions to environment, development and health issues are closely entwined and reflect the complex links between the social, economic and political factors that play a major role in determining the well-being of people, populations and nature. The development of communities at local, national and global levels through the equitable distribution of resources and power is increasingly being acknowledged as the common goal for those working towards health, peace and sustainability for all.

This workshop provides an introduction to the nature of health and community development and considers the interrelationships between achieving healthy people, healthy communities and healthy natural environments.

OUTCOMES

This workshop aims to address three key questions:

1. What is "health"?
2. How is health achieved?
3. Who achieves health?

It is from these three key questions that the following workshop objectives are derived:

- to develop a broad understanding of the nature of health;
- to examine the links between healthy people, healthy communities and healthy natural environments;

- to consider the issues of sustainability, social justice and equity as they relate to achieving health for all;
- to consider the process of community development as it contributes to healthy people, communities and natural environments.

Emerging from the workshop key questions and objectives are a range of central themes. The major ones are:

- | | |
|------------------------|-------------------------|
| • health | • sustainability |
| • people and community | • community development |
| • environment | • participation |
| • interconnectedness | • action |
| • social justice | • co-operation |
| • equity | • commitment |

WORKSHOP OUTLINE

The total workshop is divided into ten activities which have been developed to flow in the suggested sequence below.

1. General Introduction

A brief introduction to the workshop title and rationale.

2. Warm-up Activity - Tea Party

An activity which promotes some initial discussion about the major issues which will arise during the workshop. This activity also provides a framework for the evaluation component of this workshop.

3. Introduction to Workshop Objectives

An overview of the key questions to be addressed in the workshop and the related workshop objectives.

4. Focussing Mini-lecture on the Nature of Health

A facilitator-led, information-giving session which aims to set the scene for the following workshop components by developing a broad working definition of "health". In particular, the concept of health being multidimensional and a dynamic process will be highlighted. The interconnectedness of healthy people, healthy communities and healthy natural environments will also be introduced.

5. Workshop Activity - Woolly Health Web

An activity which involves all participants in constructing a web of wool during their active exploration of the connections and inter-relationships between the various dimensions (physical, social, emotional, intellectual, ethical) and areas of health (personal, community, natural environments).

6. Workshop Activity - Let's Go Health Shopping

A simulation game which reinforces the interconnectedness of healthy people, communities and natural environments and introduces the issue of inequality in health. The underlying reasons for some individuals and groups having less access than others to the resources and conditions that promote health will be explored during the game.

7. Focussing Mini-lecture on the Nature of Community Development

A facilitator-led, information-giving session which defines the nature of community development, explores its possible contributions to addressing health inequities and health problems in communities and identifies the wide range of strategies used in the community development process.

8. Workshop Activity - Community Development Case Studies

An activity which involves participants in small groups reading, discussing and analysing a case study of community development. Using key questions, participants will identify the strategies of community development that were involved in addressing the health issue faced by the particular group in the case study as well as the overall outcomes for the community. Several case studies are provided for selection to illustrate the community development process in a range of social contexts.

9. Debriefing Activity - Concept Mapping

In pairs or individually, participants review the key workshop themes or concepts by developing their own concept map. The concept map should reflect each participant's personal understanding and appreciation of the meaning and inter-connections of the key themes.

10. Evaluation Activity - Tea Party Revisited

This activity uses the same questions and process as for the warm-up activity. Each question is now discussed in the light of new understandings from the workshop. Participants review personal developments in learning.

POSSIBLE WORKSHOP SESSION ORGANISATION

Some suggestions regarding how the activities may be divided into workshop sessions are:

A. Running the workshop in 2 sessions

Session 1: Workshop Activities 1-6

Session 2: Workshop Activities 7-10

B. Running the workshop in 3 sessions

Session 1: Workshop Activities 1-5

Session 2: Workshop Activities 6-7

Session 3: Workshop Activities 8-10

MATERIALS REQUIRED (A) PROVIDED

Overhead Transparency Masters

OHT 1: Workshop Questions and Objectives

OHT 2: A New View of Health

OHT 3: Healthy People

OHT 4: Healthy Communities

OHT 5: Healthy Natural Environments

- OHT 6 : Linking it all Together
- OHT 7(a)(b): Reflections of Reality
- OHT 8: Working Towards Health For All
- OHT 9(a)(b): What is Community Development?
- OHT 10: Case-Study Questions
- OHT 11: Workshop Themes

RESOURCES

- Resource 1: Tea Party
- Resource 2: Card Labels for Woolly Health Web
- Resource 3: Making the Links
- Resource 4: Your Health Shopping List
- Resource 5: Let's Go Health Shopping - The Game
- Resource 6: Let's Go Health Shopping - Auctioning Table
- Resource 7: Community Health and Environmental Action: A Case Study
- Resource 8: Facilitating Tenant Action: A Case Study
- Resource 9: Health in a Social and Cultural Context: A Case Study

(B) TO OBTAIN

- Activity 5:- Pins (one per participant)
 - 8 balls of wool (each of a different colour)
 - Recording pens
 - Scissors
- Activity 6:- Envelopes (one per participant)
 - Plastic counters (approx. 144 per group of 6)
- Activity 9:- Blank sheets of paper (one per participant)

ADDITIONAL READING

- Bauman, A. (1989) The epidemiology of inequality, in V. Brown, ed., *A Sustainable Healthy Future: Towards an Ecology of Health*, Proceedings of a national workshop sponsored by Lincoln School of Health Sciences, La Trobe University and The Commission for the Future, April 6-7, 1989, Melbourne.
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- (1987) Then and now: Reflections on a quarter-century of change, *Health Promotion*, 15, 2-7.

ACKNOWLEDGEMENTS

Resources 7, 8 and 9: These case-studies are used with the kind permission of the Community Development in Health Project, 230 High Street, Northcote 3071. They have been extracted from *Community Development in Health: A Resources Collection*, Community Development in Health Project, District Health Councils Program, Victoria, November 1988.

ACTIVITIES

1. GENERAL INTRODUCTION

Introduce the title of the workshop - "Health, Environment and Community Development". Briefly outline the rationale for investigating health, environment and community development issues within the context of development and environmental education (See introductory statement on first page).

2. WARM-UP ACTIVITY: TEA PARTY

This activity seeks to promote some initial discussion about the major issues which will arise during the workshop. It also helps to provide a framework for workshop evaluation in which participants are invited to review personal developments in learning.

- Distribute a copy of Resource 1 to each participant, drawing attention to the unfinished statements.
- Participants form two concentric circles of even numbers, with the inside circle facing outwards and the outside circle facing inwards. Each participant in the outside circle should stand facing a person in the inside circle to form a discussion pair.
- Give the discussion pairs one minute to discuss "unfinished statement no.1" on the resource. Call "stop" when the minute is up.
- The outside circle now moves one step to the left so that each person is facing a new partner in the inside circle. In the new discussion pairs, give participants one minute to discuss "unfinished statement no.2" on the resource. Call "stop" when the minute is up and motion for the outside circle to again move one step to the left to form new discussion pairs.
- Continue this process, giving one minute for discussion of each successive statement until all have been addressed.
- In conclusion, explain that the tea-party discussion has introduced most of the key issues of the workshop and relates directly to the workshop objectives. It may be useful to also explain that the tea-party discussion will be conducted again at the end of the workshop to act as a review and evaluation activity.

3. INTRODUCTION TO WORKSHOP OBJECTIVES

- Display OHT 1 which introduces the three key questions around which the workshop is developed.
- Introduce the workshop objectives which are derived from the key questions.
- You may relate the key questions and objectives to the tea-party discussion from Activity 2 of the workshop.

4. MINI-LECTURE: THE NATURE OF HEALTH

This mini-lecture defines the broad meaning of the term "health", and highlights the interconnectedness of healthy people, healthy communities, and healthy natural environments.

- Explain that a new and broader view of health is emerging to accompany the many social, economic, political and environmental challenges facing humankind.

- Display OHT 2 which contrasts the old/narrow view of health to the new/broader view currently emerging. Discuss the five major trends of redefinition as listed on the OHT.
- OHT's 3, 4, 5 and 6 demonstrate that health is :
 - multidimensional with each dimension being interdependent and constantly interacting
 - a dynamic process that is constantly changing
 - achieved when there is balance and sustainability across all dimensions; that to achieve balance in one requires balance in the others.
- Display OHT's 3, 4 and 5 in successive order and discuss how the various dimensions within individuals, communities and natural environments relate to health.
- Display OHT 6 as the overview and definition of health. Discuss the complex and intricate links between the health of people, communities and natural environments. Discuss briefly how change to any one dimension would have health consequences to some or all other dimensions. Explain that these interconnections will be explored further in the following workshop component.

5. WORKSHOP ACTIVITY - WOOLLY HEALTH WEB

This activity is a practical way of exploring in detail, the connections and inter-relationships between the various dimensions (physical, social, emotional, intellectual, ethical, ecological) and areas of health (personal, community, natural environments).

"Woolly Health Web" involves participants in identifying and negotiating links between the various areas (personal, community, natural environment) and dimensions of health (physical, social, emotional, intellectual, ethical, ecological). Participants become representatives of the various health components and when links are found between them, these are indicated by wrapping wool around the representative. By the end of this activity, a web of different coloured wools offers a very effective visual representation of the interconnected nature of health. (This activity is adapted from "Woolly Thinking" in Pike, G. and Selby, D. (1988) *Global Teacher, Global Learner*, Hodder and Stoughton, London, pp. 141-2.).

The following facilities/materials are required:

- A large open space in the classroom
- 8 sets of card labels (see Resource 2) cut out, 3 in each set
- Pins for attaching labels to participants
- 8 balls of wool each of a different colour
- Resource 3 "Making the Links"
- 8 pens for recording

The following instructions are written for a group of up to 24 participants. If your group is larger, you will need to make adjustments along the way.

- Participants form 8 small groups of 2 to 3 participants in each. Groups choose or are allocated one of the following 8 health components (based on the diagrams presented in workshop component 4 using OHT's 3, 4, 5 and 6):

- The physical health of the *natural environment*.
- The ecological health of the *natural environment*.
- The physical health of the *community*.
- The social-emotional health of the *community*.
- The intellectual-ethical health of the *community*.
- The physical health of the *individual*.
- The intellectual-ethical health of the *individual*.

Note: If there are more than 24 participants, divide these health components further to add additional groups to the activity. For example, social-emotional community health can be divided into social community health and emotional community health.

- Give each participant in the group a label to wear which identifies the health component they are representing.
- Each group then appoints a "static negotiator" (SN) and 1 to 2 (depending on group size) "mobile negotiators" (MN).
- The SNs from each group now move into a circle leaving approx. double arms length distance between each person. This should allow enough space for movement during the activity. SNs are each given a different coloured ball of wool and asked to tie the end of their ball of wool around their waist. Also, give each SN a copy of Resource 3 and a recording pen.
- The role of each SN is to stay stationary in the circle while the MNs move out into the circle to have discussions with the other SNs.
 - Discussions between sets of SNs and MNs should involve the identification and negotiation of the links between the 2 health components they are representing. For example, the *physical health of the individual* can be adversely affected through stress, anxiety, depression, injury or drug abuse if the *community* is experiencing poor *social and emotional health* through unemployment, homelessness, domestic crime and community alienation.
 - The SNs are also responsible for recording the negotiated links onto Resource 3 in the appropriate square on the grid.
 - The MNs are responsible for negotiating the links between their health component and the other 7 components. Each time a link is discussed and then recorded, the 2 balls of wool are passed by the MNs across the circle, looped around the waists of the opposite SNs and then passed back to the SN from whom it started.
 - As the activity progresses, a web of connections between the health components will be produced. Always keep the wool taut. As the web progressively becomes more closely woven, the MNs will have to crawl underneath the web to continue their linkings.
- When appropriate, call for negotiations to stop and for the SNs to carefully sit down while still keeping the web intact.
- Debriefing: Discussion of the constructed web could involve points such as:
 - noting the intermixing of the different colours in wool which symbolises the complexity of the nature of health
 - discussing the implication of the complexity of health for the achievement of healthy people, communities and natural environments

- noting any absences of links and providing explanation
- noting where links are particularly strong and providing explanation
- noting some specific examples of links negotiated between the various health components.

6. WORKSHOP ACTIVITY - LET'S GO HEALTH SHOPPING

This game has a number of objectives:

- to reinforce the interconnectedness of healthy people, communities and natural environments.
- to highlight that human health is determined just as much by social, economic and environmental factors than by individual lifestyle choices and medical advances.
- to introduce the issue of health inequities.
- to explore the underlying reasons for some individuals and groups having less access than others to the resources and conditions that promote health.
- to demonstrate that health for all is achieved where there is an equitable distribution of resources, conditions and power.

The following lists the materials and preparation that are required for this game.

Materials

Resource 4 "Your Health Shopping List"

Resource 5 "Let's Go Health Shopping - The Game."

Resource 6 "Let's Go Health Shopping - Auctioning Table"

OHT 7 "Reflections of Reality"

Envelopes (one per participant)

Plastic counters or cardboard squares (health units). You'll need approx. 144 counters per group of 6.

Preparation

- Put envelopes into sets of 6. For each set of 6:
- 2 envelopes contain 35 counters each
- 2 envelopes contain 25 counters each
- 2 envelopes contain 12 counters each
- On the inside flap of each envelope, write the number of counters contained inside.

Instructions

- Divide participants into "communities" of 6 people each. Each community can form its own circle.
- Give each participant in each community a copy of Resources 4, 5 and 6.
- On an individual basis, participants read the items on the Health Shopping List (Resource 4) and then do Procedure 1 (Prioritising) from Resource 5.

Diagram 1 gives an example.

Item			Standards	Health Units
1.	—	Housing -space, safety, warmth, security, amenities, aesthetics, hygiene, location.	excellent average poor	
2.	—	Work & employment - occupation safety, job security, work satisfaction, autonomy, hygiene, job opportunities, working hours, sick and holiday benefits, social interaction	excellent average poor	
3.	—	Environmental Surroundings (natural & built) - aesthetics, levels of pollution, location, safety, sense of place, space, design, ecological diversity and balance	excellent average poor	

Participants should be made aware of aim (a) of the game: To be as healthy as you can. This activity should once again highlight the interconnectedness of healthy people, communities and natural environments. That is, that one cannot be achieved without the others.

- On an individual basis, participants do Procedure 2 (Counting) from Resource 5. Distribute the 6 envelopes randomly between participants in each community. It is important that participants do not yet reveal to other participants how many health units they have been allocated. In this way, it is not evident until later in the game, when the realisation is most powerful, that there is great inequity in health unit allocation amongst the community members.
- On an individual basis, participants do Procedure 3 (Allocating) from Resource 5. For example:

Item			Standards	Health Units
1.	—	Housing -space, safety, warmth, security, amenities, aesthetics, hygiene, location.	excellent average poor	
2.	—	Work & employment - occupation safety, job security, work satisfaction, autonomy, hygiene, job opportunities, working hours, sick and holiday benefits, social interaction	excellent average poor	
3.	—	Environmental Surroundings (natural & built) - aesthetics, levels of pollution, location, safety, sense of place, space, design, ecological diversity and balance	excellent average poor	

At this point, those participants with 35 or 25 health units will be able to allocate several health units to each list item while those participants with only 12 health units will be able to allocate only 1 unit for most items.

Participants should be made aware of aim (b) of the game : To use up all your health units.

- Participants now function as a community and do Procedure 4 (Auctioning) from Resource 5. Resource 6, the auctioning table, will also be required at this point. During auctioning, participants will be bidding for the purchase of excellent, average and poor standards of each list item and recording personal payments on to Resource 4. For example:

Item		Standards	Health Units
1.	— Housing -space, safety, warmth, security, amenities, aesthetics, hygiene, location.	excellent average poor	
2.	— Work & employment - occupation safety, job security, work satisfaction, autonomy, hygiene, job opportunities, working hours, sick and holiday benefits, social interaction	excellent average poor	
3.	— Environmental Surroundings (natural & built) - aesthetics, levels of pollution, location, safety, sense of place, space, design, ecological diversity and balance	excellent average poor	

It is during this auctioning stage that participants will become aware that some people have more health units than others, and therefore, that advantaged and disadvantaged groups exist in the community when it comes to achieving health.

The facilitator plays a key role here in being aware of how each community is reacting to this realisation. Some communities may play on regardless or some communities may express concern about the existing inequities and decide to redistribute health units amongst members in some way. In the latter case, the facilitator should encourage this process of action. In the former, it is at the facilitators discretion to either not interfere or to gently suggest that the community could do something to make the process more equitable.

- When each community has auctioned all list items, participants do Procedure 5 (Debriefing) which culminates in each community giving a report of "happenings" to the larger group.
- As a whole group, discuss how this simulation game reflects some of the realities of achieving health for various people and communities at local, national and global levels. OHT 7 may be useful at this point to either guide or reinforce this discussion.

The following points of analysis may also be useful in linking the experiences of the game (column A) with the various points on OHT 7 (column B).

A	B
When going health shopping it is difficult to prioritise/compromise on the items because they all seem essential to health.	1,2,3
Some people receive more health units than others. The number of health units a person initially receives is not determined by the individual.	4,6
Those people with less health units have much reduced opportunity to get the things that promote health.	5
The more health units a person has, the greater amount of control and power they have, not only over their own opportunities for health, but over that of others.	6,7
People with only a few health units may find it difficult to convince some people with many health units to give some of them away or to make lower bids. They may feel powerless and alienated.	6
It is only with the redistribution of health units between members of the community that everyone can achieve at least an average standard for all list items.	7
The redistribution of health units requires the people with many health units to agree to give up some of their units to those who have less and to compromise on standard on several/all list items.	7
When some people discover that not everyone in the community is able to achieve even a poor standard for each list item, there can be a strong sense of injustice and urge to make things fair.	1

- In conclusion, indicate that the following workshop component (7) will explore how re-oriented government policy combined with community development processes can address health inequities so that health can be achieved for all.

7. MINI-LECTURE: THE NATURE OF COMMUNITY DEVELOPMENT

This mini-lecture focuses on three themes:

- the role of governments and communities at all levels in working towards the health of all.
- the potential of community development for addressing community issues.
- a range of strategies for the development of communities.
- Illustrate historically that there has been significant international recognition by groups such as the World Health Organisation and United Nations that there is an urgent need for action to address the inequalities in health of the people between and within countries. OHT 8 indicates 3 historical milestones.
- Focus on the 5 strategies listed from the Ottawa Charter (OHT 8).

Some explanation of each of the 5 strategies may include the following points:

(1) *Building Healthy Public Policy*

- including health as a major consideration in all policies and legislation (e.g. transport, environment, housing, education, social services) because they all influence health.

- building co-operation of all governments and policy makers across all sectors and at all levels to consider the health consequences of their decisions and to accept their responsibilities for health.

(2) Create Supportive Environments

- building responsibility of all nations, regions, communities and individuals to take care of each other and their natural environments.
- conserving natural resources and protecting natural and built environments.
- generating safe, satisfying and enjoyable living and working conditions.
- supporting healthy lifestyles.

(3) Strengthen Community Action

- empowering communities.
- strengthening public participation and community ownership and control over the direction of health matters.
- providing full access to information, funding and support.

(4) Develop Personal Skills

- supporting personal and social development.
- providing information, education and enhancing life skills.

(5) Reorient Health Services

- broadening the role of health services from clinical and curative services only, to include a focus on the social, political, economic, environmental components connected to health.

Highlight that these strategies involve the cooperative and joint efforts of governments and communities to promote health for all. In particular, note that strategies 3 and 4 have a strong focus on community development. Therefore, community development must be regarded as an important process for achieving health.

- Display OHT 9(a) & (b) and discuss the specific nature of community development and its associated strategies.

8. COMMUNITY DEVELOPMENT CASE STUDIES

In this activity, participants work in small groups to discuss and analyse a series of case-studies of community development.

- Divide participants into small groups of 3 to 4 people each. Each group is to receive a case-study of community development to read, discuss and analyse (Resources 7,8,9)
- Each small group reads their chosen/allocated case-study and then collectively answers the four key questions listed in OHT 10 about the case-study.
- A brief feedback session based on the five key questions may take one of several forms:
 - each small group reporting back to the whole group, or
 - two small groups which each looked at a different case-study, reporting to each other, or
 - small groups which looked at the same case-study, comparing responses and discussing reactions.

9. DEBRIEFING ACTIVITY - CONCEPT MAPPING

This activity reviews the key workshop themes by helping each participant draw a concept map.

- Display OHT 11 and review the key workshop themes or concepts. Discuss as required.
- In pairs or individually, participants develop a concept map of the key themes on a blank sheet of paper. The concept map should reflect their understandings and appreciations of the meanings of the concepts, including how they are interconnected. Participants should be encouraged to be as free and creative as they like in their construction of the concept map.
- Participants may share completed concept maps with others and discuss reasons for particular mapping forms.

Two examples of a personal concept map are provided on OHT's 12 and 13.

10. EVALUATION - TEA PARTY REVISITED

The workshop concludes with a second Tea Party (Activity 2). It helps participants to review their personal developments in learning as a result of the workshop.

Using the same resource and process as for the Tea Party (Activity 2), participants "revisit" each question and discuss how (or if) their understandings of the related issues have changed or developed as a result of the workshop activities.

As well as participants reviewing their own personal developments in learning through this evaluation activity, the workshop leader can gain insight into the effectiveness of the workshop in achieving its aims and objectives.

OHT 1

WORKSHOP QUESTIONS AND OBJECTIVES

The Issue

Health and Community Development

Key Questions

1. What is health?
2. How is health achieved?
3. Who achieves health?

Objectives

For participants to:

- A. develop a broad understanding of the nature of health
- B. examine the links between healthy people, healthy communities and healthy natural environments
- C. consider the issues of sustainability, social justice and equity as they relate to achieving health for all
- D. consider the process of community development as it contributes to healthy people, healthy communities and healthy natural environments.

A NEW VIEW OF HEALTH

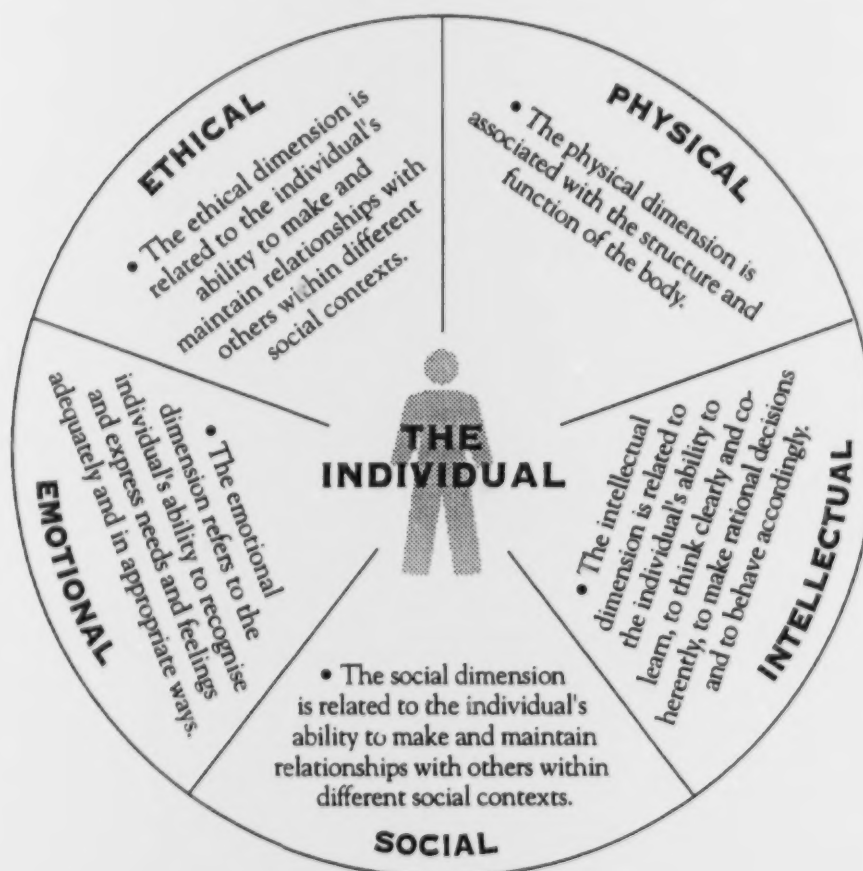
Old / Narrow	New / Broader
1. Health is the absence of disease or illness. It is a medical concern. 2. Health has to do with physical well-being of the body's structure and function. 3. Health is to do with the well-being of individuals. 4. It is the responsibility of the individual for his/her own health. 5. Health is dependant on the personal lifestyle choices which an individual makes.	Health is also a positive concept of well-being and balance and is a resource for everyday living. It is also a social and personal concern. Health is also to do with social, emotional, intellectual and ethical well-being. Health is also to do with the well-being of communities and natural environments at local, national and global levels. It is also the responsibility of individuals, communities, governments and entire societies to help others achieve health. Health is also dependant on a range of social and ecological factors.

OHT 3

HEALTHY PEOPLE

Basic characteristics:

- a dynamic and sustainable state of physical, intellectual, social, emotional, and ethical well-being.
- each person is multidimensional and each dimension contributes to the total health of the whole person.
- levels of well-being in each dimension are interdependent, constantly changing and interacting.



HEALTHY COMMUNITIES

Basic characteristics:

- a dynamic and sustainable state of physical, intellectual, social, emotional and ethical well-being
- communities are multi-dimensional and each dimension contributes to the total health of the community
- levels of well-being in each dimension are interdependent, constantly changing and interacting.



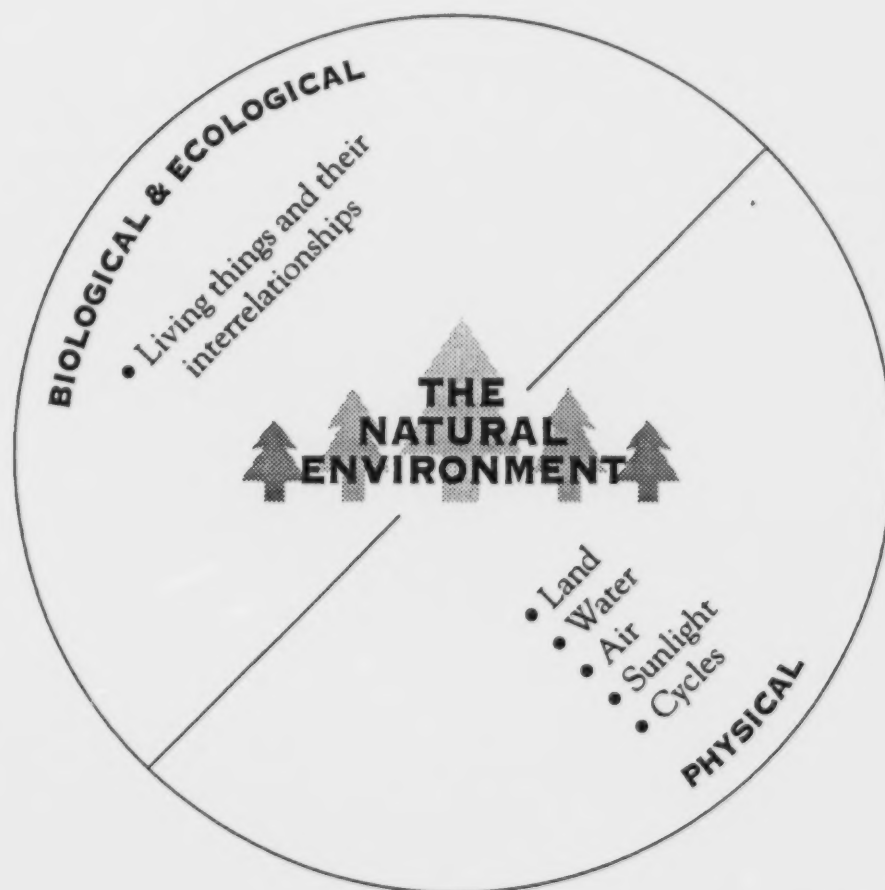
Source: (Draft) *Health Education Syllabus Years 1 to 10*, Queensland Department of Education, November 1991.

OHT 5

HEALTHY NATURAL ENVIRONMENTS

Basic characteristics:

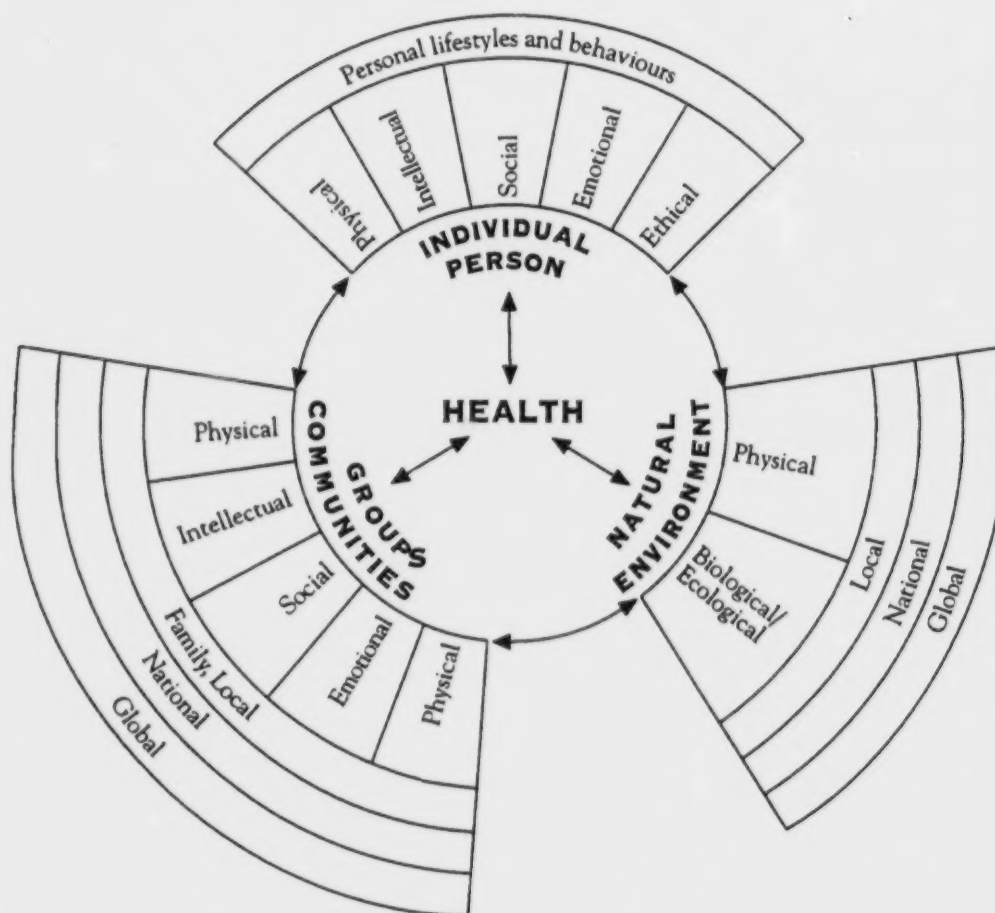
- a dynamic and sustainable state of ecological well-being
- natural environments are made up of various elements, systems and processes, all of which are interdependent, changing and interacting.



Source: (Draft) *Health Education Syllabus Years 1 to 10*, Queensland Department of Education, November 1991.

LINKING IT ALL TOGETHER

The health of people, the health of communities and the health of natural environments are inextricably linked. Health is multi-dimensional and interrelated, requiring a balance of all dimensions.



OHT 7(A)

REFLECTIONS OF REALITY

1. Health is a **fundamental right** for all people, communities and environments.
2. Health is **multidimensional** and **interconnected**.
3. To achieve health means **much more** than people having access to medical health services and making healthy lifestyle choices.
4. **Health status** is determined just as much by social, economic and environmental factors than by individual health and lifestyle choices and medical advances.
5. When it comes to achieving health, some people and communities are disadvantaged due to **inequitable access** to the resources and conditions that promote health.

Opportunities for the health of people and communities at local, national and global levels are distributed unequally according to factors such as:

- the socio-economic status (income, education, occupation)
- social support structures
- the degree of control, power and autonomy
- age
- gender
- geography
- culture and language

OHT 7 (B)

REFLECTIONS OF REALITY

6. Reduced access to health resources and conditions by disadvantaged people / communities (eg. rural populations, women, aged, lower socio-economic groups / countries, indigenous people) can be explained more by social, economic and political reasons than by individual's actions. The causes of **reduced health** are generally out of the individual's control.

7. Health for all is achieved when an **equitable distribution** of health resources and conditions occurs.

This means:

- justice,
- equity, and
- sustainability
- for all people, communities and natural environments.

OHT 8

WORKING TOWARDS HEALTH FOR ALL

Some Major Milestones

1978

THE DECLARATION OF ALMA ATA

World Health Organisation and United Nations

- declared "that the health status of hundreds of millions of people in the world today is unacceptable" and called for an equal distribution of health resources so as to "attain a level of health for all citizens of the world that would permit them to lead a socially and economically productive life".

1979

GLOBAL STRATEGY FOR HEALTH FOR ALL BY THE YEAR 2000

World Health Organisation

- focussed attention on the inequalities in health and stated a goal of "bringing health within the reach of everyone... including the remotest part of the country and the poorest members of society".

1986

OTTAWA CHARTER FOR HEALTH PROMOTION

World Health Organisation

- listed five major strategies for promoting health for all:
 - build healthy public policy
 - create supportive environments
 - strengthen community action
 - develop personal skills
 - reorient health services

OHT 9(A)

WHAT IS COMMUNITY DEVELOPMENT?

Some basic aims

- a society (local, national and global) more sharing of its resources
- sustainability (for people and environments) with peace and justice
- decentralisation of decision making
- devolution of power to communities
- people and communities with the strength, confidence, skills, consciousness and collective spirit to have maximum control over the circumstances of their lives.
- genuine responsibility, initiative, decision-making and self-reliance at the community level.

Some general aspects

- Involvement in struggle
People actively making decisions and taking action to bring about change.
- Community sense
Building a strong sense of belonging to a community.
- Organisation development
Building and improving organisations which provide a basis for action.
- Concrete benefit
Something real and tangible happens.
- Learning
People acquiring new skills.
- Fundamental social change
The altering of some basic institution or institutional relationship to improve the lives of participants.

Source: Bill Lee, quoted in Butler, P. (1992) in Reflections on 'good' community development, *Community Quarterly*, No.24, September.

OHT 9(B)

WHAT IS COMMUNITY DEVELOPMENT?

Some practical strategies

- collective decision-making
- collective action
- consensus building
- personal development
- small group development
- sharing experiences
- developing trust and communication
- raising critical awareness of the issue
- developing intellectual and moral commitment to the issue
- non-violent protest
- pressure groups
- community research
- public meetings
- public exposure of the issue
- self-support services
- networking people and resources
- identifying problems
- prioritising concerns and actions
- self-help groups
- skill development
- community projects
- co-operatives



OHT 10

CASE-STUDY QUESTIONS

1. What are the **community problems/issues**?
2. What did the community do to address their problems? List the range of **strategies or actions** used.
3. What were the **outcomes** (positive, negative, short term, long term) for the community as a result of the process?
4. Which of Lee's **aspects** of community development does this case-study reflect?
5. What are your **personal reactions** to the community development process illustrated in this case-study?

OHT 11

WORKSHOP THEMES

Health

People and community

Environment

Interconnectedness

Social justice

Equity

Sustainability

Community development

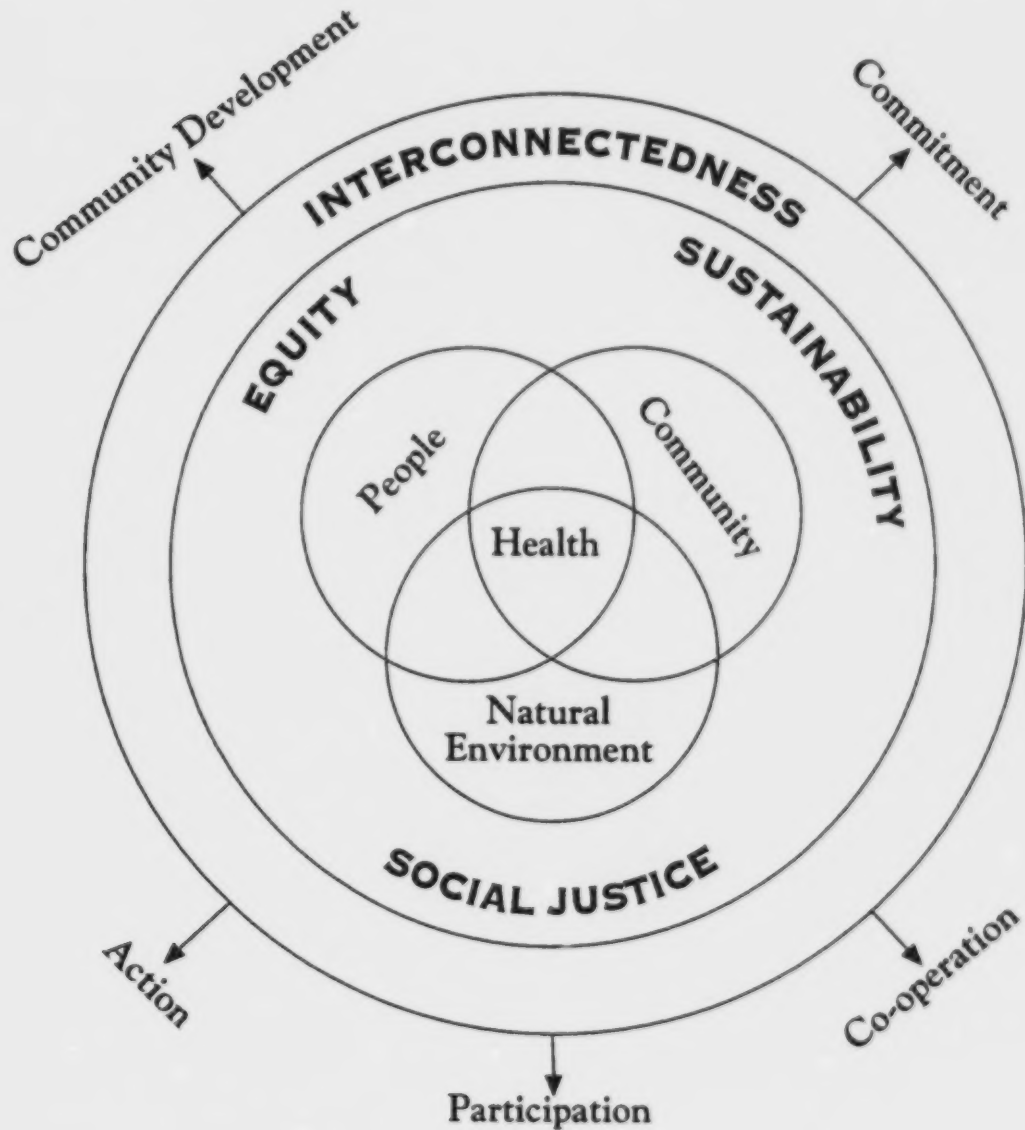
Participation

Action

Cooperation

Commitment

PERSONAL CONCEPT MAP A

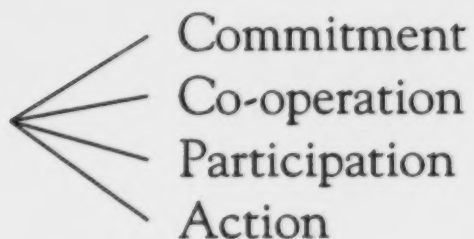


OHT 13

PERSONAL CONCEPT MAP B



**INTERCONNECTEDNESS
COMMUNITY DEVELOPMENT**





RESOURCE 1

TEA PARTY

1. Some things that make me healthy are _____

2. Some things that make me unhealthy are _____

3. Some things that make a healthy community are _____

4. If I was to define "health" I would say it is _____

5. I think one of the most serious health problems that confront humankind today is _____
_____ because _____

6. Some people are more healthy than others because _____

7. To achieve health for all people it is vital that communities and governments work towards _____
_____ because _____

RESOURCE 2

CARD LABELS FOR "WOOLLY HEALTH WEB"

The physical health of the the natural environment (land, water, air, sunlight, cycles)	The ecological health of the natural environment (living things and their inter-relationships)
The physical health of the community (the human made structures-houses, buildings, roads, cities, parks, farms - and their functions for the community).	The social-emotional health of the community (social relationships, community cohesion, communication systems, support and guidance, welfare, cultural patterns, economic & political systems, social feelings, group emotions, community belonging).
The intellectual-ethical health of the community (education, learning and decision-making systems; societal values, beliefs, morality, spirituality)	The physical health of the individual (the structure and function of the body)
The social-emotional health of the individual (the ability to make and maintain relationships with others, to recognise and express needs and feelings to self and others)	The intellectual-ethical health of the individual (the ability to learn, think, make rational decisions, critique; the development of values, beliefs and principles of morality).



RESOURCE 3

MAKING THE LINKS: NEGOTIATING AND RECORDING SHEET FOR "WOOLLY HEALTH WEB"

HEALTH COMPONENT	YOUR LINK
The physical health of the natural environment	
The ecological health of the natural environment	
The physical health of the community	
The social-emotional health of the community	
The intellectual-ethical health of the community	
The physical health of the individual	
The social-emotional health of the individual	
The intellectual-ethical health of the individual	

RESOURCE 4

YOUR HEALTH SHOPPING LIST

Item		Standard	Health Units
1.	—	Housing -space, safety, warmth, security, amenities, aesthetics, hygiene, location.	excellent average poor
2.	—	Work & employment - occupation safety, job security, work satisfaction, autonomy, hygiene, job opportunities, working hours, sick and holiday benefits, social interaction	excellent average poor
3.	—	Environmental Surroundings (natural & built) - aesthetics, levels of pollution, location, safety, sense of place, space, design, ecological diversity and balance	excellent average poor
4.	—	Sense of family / community - belonging, communication, support, understanding, acceptance, cohesion, networks, relationships, autonomy & control	excellent average poor
5.	—	Clothing - warmth, protection, variety, availability and access.	excellent average poor
6.	—	Food and Nutrition - quality, quantity, variety, availability and access	excellent average poor
7.	—	Education - relevance, quantity, quality, availability and access	excellent average poor
8.	—	Recreation, Leisure, Fitness - availability and access, quantity, quality	excellent average poor
9.	—	Health Care/Medical Services - access and availability, quality, quantity, relevance.	excellent average poor

RESOURCE 5

LET'S GO HEALTH SHOPPING: THE GAME

Aim of the Game:

- (a) To be as healthy as you can
- (b) To use up all your health units

Procedure:

Prioritising

1. Consider how important you regard each item on the shopping list as contributing to your health. Using the left top box, tick those items that you regard as absolutely essential and would not compromise on standard. Cross those items that you would compromise on standard if you had to.

Counting

2. Find out how many health units you have by opening your envelope and looking on the inside flap. Keep this amount to yourself at least until step 4.

Allocating

3. Allocate all your health units to the items on your shopping list and record them in the left bottom box. Your allocation of health units should indicate the level of importance with which you regard each item as contributing to your health. One health unit is the lowest value when buying an item but you can choose to allocate zero units to an item if you wish. These allocations can act as a guide for bidding in the auction. You may change these allocations at any time.

Auctioning

4. Form your community of 6 people. As a group, work sequentially through the shopping list, item by item, as you auction off the purchase of excellent, average and poor standards. For each item, each person in the community has a turn to bid how many units they are willing to pay for the excellent standard. The item at excellent standard goes for the highest bid each time. More than one person may buy at a time as long as they all buy for the same highest amount. The highest bid for 'excellent' now sets the unit price for 'average' and 'poor' standard. Refer to the auctioning table (Resource 6) to identify consequent prices. Those who do not purchase 'excellent' standard can elect to buy either 'average' or 'poor' at the set price. When an item is purchased each person should record the payment in the health units box at the right of the sheet. Then, put the correct number of units into the centre of the community, and inform the community of the standard you have purchased.

Debriefing

5. When the game is finished, as a community write down 5 major "happenings" in the activity. These happenings may recount such things as community feelings, actions taken by all or some of the members, final health profiles of each community member, agreements/disagreements/pacts that occurred. Report these 5 happenings to the whole group.

RESOURCE 6

LET'S GO HEALTH SHOPPING: AUCTIONING TABLE

The highest bid for "excellent"	Consequent Prices	
	for "average"	for "poor"
8	5	1
7	4	1
6	3	1
5	3	1
4	2	1
3	2	1
2	1	0
1	0	0

RESOURCE 7

CASE-STUDY 1 COMMUNITY HEALTH AND ENVIRONMENTAL ACTION

This case study of environmental action is a study on the fragile nature of community development. It's a study from which we can learn a great deal.

A community concerned about the effects of living with heavy industry in their midst was angry and frustrated. In this context, the Dale Street Women's Health Centre managed to facilitate the development of a self-help action group. The group served to affirm the residents' concerns, giving them legitimacy and hope, and thus, gradually overcoming their sense of isolation and powerlessness. However, as the self-help group strengthened, tensions developed between it and the Centre.

Whilst the involvement of a women's health centre in local environmental issues is itself of interest, the real lessons emerging from this experience relate to the delicate tasks of building trust and handing power to the community.

INTRODUCTION

The Dale Street Women's Health Centre became active in the environmental concerns of the LeFevre Peninsula, Port Adelaide, in 1986. Although, traditionally, women's health concerns have not included environmental-related issues, the staff of the Centre on the LeFevre Peninsula strongly suspected that the nature and extent of the area's health problems were related to environmental factors. Thus, we as workers at the Centre, set out to work with the Peninsula residents in a community development framework to address the area's environmental health problems. This experience resulted in varying levels of success for the residents and workers, as well as some important lessons for all.

THE AREA

The LeFevre Peninsula is a mixed industrial and residential area, bounded by the sea to the west and the Port River to the east. The people in the area live, work and play right alongside heavy industry. It is by no means a wealthy area and includes a fair amount of public housing. Many residents own their own houses, which despite their average incomes, are homes that they are proud of. Many of these houses are located close to a chemical production area, where some relatively nasty, toxic substances are produced. There is a lot of heavy traffic going through the area - both

"...THESE HOUSES ARE LOCATED CLOSE TO A CHEMICAL PRODUCTION AREA, WHERE SOME RELATIVELY NASTY, TOXIC SUBSTANCES ARE PRODUCED."

trucks and railway; and a lot of noise, smells and pollution. For years residents have complained about this situation.

In 1985 and 1986, there were two serious chemical spillages: copper chromium arsenate⁽¹⁾ was spilt into the Port River at Gillman and one tonne of chlorine gas was leaked into the atmosphere at Osborne. There was widespread alarm amongst residents, the local fishing industry and environmentalists. The attitude of the com-

panies and Government departments was that it had been the choice of residents to remain in the area. Of course, the reality is not that clear cut, as some have said:

"Why should we have to move when all we want is a safe living environment."⁽²⁾

Although these incidents highlighted the situation, the underlying uneasiness of the residents about the presence of toxic industry had been with them for years. Their concerns about the threat to their family's health, fuelled by the ever present reminder of chemical smells and the unrelenting stress of a continuous flow of heavy traffic, were robbing them of their right to create for themselves the home life they desired.

"...THEIR FAILURE -
IT TURNED THEIR ANGER
INTO FEELINGS OF DEFEAT
AND DEPRESSION..."

They were angry, but their failure to bring about change - or even to gain some recognition for the legitimacy of their concerns - had turned their anger into feelings of defeat and depression about the whole situation. Hope had long since been replaced by scepticism and suspicion.

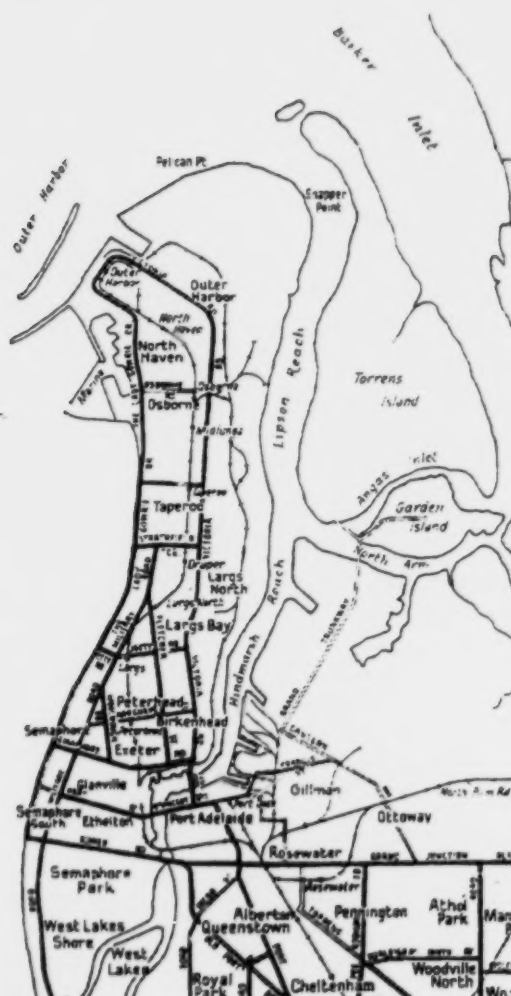
INVOLVEMENT OF THE CENTRE

It was in this context that the Dale Street Women's Health Centre became active. We became involved in this local issue for three reasons:

a) several of the Centre's workers lived in near-by areas and were, themselves, members of a community-based 'environmental health group' which was concerned about what was going on.

b) A journalist, who had been covering the chemical spills in the area over the years, had been in contact with the residents and was genuinely concerned about their well-being. He urged us to do something.

c) We had observed, from the women clients visiting the Centre, an unusually high incidence of respiratory problems, such as asthma and ear, nose and



throat complaints.

Thus we took up the challenge! Our suspicions of the prevalence of respiratory and bronchial symptoms have since been verified by statistical evidence (3)

**"WE HAD OBSERVED AN
UNUSUALLY HIGH INCIDENCE OF
RESPIRATORY PROBLEMS..."**

Initially, we visited three key families to whom the journalist had spoken. These families lived in the same street and knew one another - they seemed to be prepared to take action and knew others in their neighbourhood whom they could mobilise. Eight families soon became involved. These people were not 'seasoned activists', but had the time and the motivation to take action. They included, mothers who were at home during the day and some men who were off work on workers' compensation: their lives and their family's lives had been strongly affected by the presence of toxic industry.

As staff at the Centre, we had a great deal of autonomy in setting our own priorities, so in February 1987 we decided to initiate a short-term, small-scale

project, which specifically aimed at investigating the extent of problems in the area, and to find out whether there was any action that the Health Centre could take. As with all project proposals, we took this proposal to the management committee who approved the project, and as the Centre had made a small saving in the previous year due to a worker taking leave without pay, we were able to employ someone on this project for 20 hour/week for 3 months.

**"THE WORKER DREW TOGETHER
A GROUP OF CONCERNED RESI-
DENTS WHO DECIDED TO CALL
THEMSELVES HELP..."**

We went back to the residents with this offer of assistance and left it to them as to who among them would be employed. They chose a local person who lived in the Osborne area, and who had previously been involved in attempts to tackle the industrial pollution. Her brief was firstly, to gauge the extent of the health problems, both physical and emotional, and secondly, to develop some strategies for dealing with them.

The worker drew together a group of concerned residents who decided to call themselves HELP ('Health in the Environment of LeFevre Peninsula'). Together, they devised a questionnaire on environmental health problems in the area. The questionnaire was based on the group's own experience of problems, and included the issues which they felt were most important to residents of the area. Using this approach provided the opportunity for the worker and for HELP to listen to some real stories about the residents' experiences, as well as raising consciousness about environmental concerns. A random selection of 120 households were surveyed, with 115 questionnaires being completed.

The results of the questionnaire were fairly dramatic, suggesting a disturbingly high level of health problems in the community, particularly, respiratory problems. Many respondents mentioned the fact that some, or all family members and neighbours were affected. There was a mixture of acute and chronic health problems, including: acute responses to accidental exposure to gas and dust waste; and chronic problems like sinus, asthma and bronchitis. Only 7 of the 115 respondents said there were no health problems in relation to the environment. One respondent to the questionnaire clearly summed up the situation:

**"THE RESULTS...WERE FAIRLY
DRAMATIC...MANY RESPON-
DENTS MENTIONED THE FACT
THAT SOME, OR ALL FAMILY
MEMBERS AND NEIGHBOURS
WERE AFFECTED."**

"Sometimes living here's like being in the movie 'silkwood' only you're not acting, it's for real." (4)

FOLLOW-UP ACTION

HELP called a public meeting to present the findings of their survey (5); it was a very successful meeting

and it enabled a much wider cross-section of residents to have their say. This meeting, and the survey results, really set the ball rolling.

"...COMPLAINTS BY INDIVIDUALS NEVER SEEMED TO BE GIVEN LEGITIMACY."

It led to a lot of public exposure for the HELP group and, eventually, to Port Adelaide being included in the Environmental

Health Management Plan, which the Health Commission in South Australia is currently piloting.

Previously, long-term residents had experienced a sense of isolation - complaints by individuals never seemed to be given legitimacy. When someone rang

"THEIR ISOLATION AND SENSE OF POWERLESSNESS WERE REPLACED BY A RENEWED HOPE THAT SOMETHING COULD AND WOULD, AFTER ALL, BE DONE."

to report a strong smell of chlorine, the Department of the Environment would respond with: "No-one else has rung". In taking group action however, HELP provided residents with much needed support and the opportunity to build confidence.

As a group with a name, doors opened which had previously been closed to the residents as individuals.

The public meeting generated a tremendous level of enthusiasm - for the first time the residents' fears were given credence. The survey results, together with the attendance at the meeting, the exposure in the media and the response of the Government showed that their concerns were valid. Their isolation and sense of powerlessness were replaced by a renewed hope that something could and would, after all, be done.

THE RELATIONSHIP BETWEEN THE CENTRE AND HELP

From the start, we had envisaged our involvement as being short-term: as with any community development project, the workers must eventually withdraw. We planned to scale down our involvement after the public meeting, that is, we aimed to retain our support and commitment for HELP while becoming less active. Several issues arose however, which led us to withdraw our involvement sooner than expected, and leave the campaigning in the hands of the HELP group. These issues were related to the history of the area, the residents' perception of 'professionals', the way the HELP group developed and differing priorities and concerns. We have spent many hours reflecting and discussing these issues and the experiences and lessons learned from them. Our discussions raise important points for consideration by workers in community development.

THE ISSUES

One important issue which we faced was a growing suspicion of the Health Centre workers by local residents - suspicion to the extent of being perceived

as spies and bureaucrats. This was very difficult to deal with. In fact, the group had become suspicious of any outsiders - with the exception of a few - who took an interest in their activities.

We had employed a worker from the residents' group and, although this gave the project a lot of momentum, it also caused confusion for the worker. Her 'split loyalties' may have contributed to the problems that we experienced in maintaining co-operation between the Centre and HELP.

Underlying the residents' suspicions seems to have been the inevitable perception of an imbalance of power and access to information, which often surrounds paid workers working with the community. As workers, we felt that one of the most important processes which had been developed was the sharing of information between HELP and the Centre. It came to the point however, that they could not continue to share their information. It was at this particular point that we discovered our relationship with the group was on 'shaky ground'. We had wanted to borrow HELP's records (newspaper cuttings, letters and such) to prepare a paper on the role of lobby groups in health and were refused. When we confronted the group with this issue of information sharing, the group revealed its lack of trust in the workers and consensus could not be reached. HELP's reluctance to share information was due to their fears of being 'taken over' and being used for our 'greater glory'.

"UNDERLYING THE RESIDENT'S SUSPICIONS SEEMS TO HAVE BEEN THE INEVITABLE PERCEPTION OF AN IMBALANCE OF POWER..."

These experiences reinforced for us the important step of establishing group norms in the process of building group cohesiveness and group development. Group norms need to be established around such issues as: information sharing; allowing each person to speak; respecting individual opinions and confronting individuals who do not respect these norms.

As previously mentioned, the local residents were very sensitive to potential professional exploitation of themselves and their experiences. Our experiences with the group has shown that sometimes people think in terms of: "What's in it for the worker?"; "Are we (residents) to feature in some research for a curriculum vitae?" We tried to avoid this attitude by getting to know key people in the community, gaining their trust and creating an 'in' into the community. Professionalism and the professional's training can get in the way - sometimes it's necessary to throw out ideas on how things should be done, such as how a meeting should be run, as it doesn't always apply. Status, positions and titles can be a block to co-operation. To work in a community development style, it is important to be prepared to hand over power - a

WORKERS, RESIDENTS... ORGANIZE



FOR A HEALTHY ENVIRONMENT

problem if one is too bound up in the issue and cannot bear to do oneself out of a job. In our experience, clarity of personal and professional reasons for involvement from the outset is essential.

Another issue which we had to confront was one of different priorities in health care. For example, in talking with residents about health problems, it was not hard for us (as health workers) to go off at a tangent about the epidemiology⁽⁶⁾ of health problems in the area; whereas the residents' priorities were understandably focussed around what affected their lives - the daily grind of indifference in a noisy, dusty environment.

Similarly, another issue was deciding on the priority of concerns. For people in the HELP group, concerns were varied and everyone had different agendas: for one, it was the truck going past, for

"...ANOTHER ISSUE WAS
DECIDING ON THE PRIORITY
OF CONCERNS."

another, it was one particular factory that was the problem. The Centre wanted to take a broader view and to pursue, for

example, legislation or an Environmental Health Management Plan (a topic being discussed at the time in the Health Commission), and also to have an Environmental Health Worker employed for the whole area. However, this was difficult for the group to accommodate. It was essential, therefore, to do something about the noise, the dust and the trucks at the same time as taking on the broader issues. These priorities clearly demonstrated to us that there was a need to tackle the residents' environmental health problems at different levels.

Linked to this issue of different priorities was the issue of different political perspectives. Under this heading would come - fear of the feminist cause. Although the Centre is well accepted and established in the Port region, as a Women's Health Centre we still experience some resistance.

"IT WAS ESSENTIAL, THERE-
FORE, TO DO SOMETHING
ABOUT THE NOISE, THE DUST
AND THE TRUCKS AT THE SAME
TIME AS TAKING ON THE
BROADER ISSUES."

Some people could not conceive of working with the Centre. As happens in most community development projects, one finds oneself working with people with whom one would not usually be working.

To have an agency, especially a women's health agency, involved in a residents' group can cause problems, especially as women's health has not traditionally included environmental health. The Centre considered it to be quite justifiable to take a social view of health, especially considering the number of women who live in the area.

In addition, we felt that we may have fallen into conflict with the Health Commission if we had needed to criticise their inaction. We feared that such criti-

cism of our funding body might have jeopardised the security of our funding. We also feared that it would have been difficult to justify our involvement: our experience of community development work is that it is not quantifiable in bureaucratic Health Commission terms. Such a project as this is not measurable by the number of heads through the door or clients on statistical sheets. These accountability and evaluation problems are common in community health where resources are small and demand for one-to-one involvement is high.

"...ADVOCACY, DIRECT
ACTION AND GROUP BUILDING
PROCESSES SHOULD ALL BE
EQUAL ASPECTS OF OUR
WORK."

We have since discovered that our fears were, in fact, quite unfounded - the Health Commission would have been quite open to criticism and accepting of a community development approach!

Defining outcomes, and evaluating what has been achieved and for whom, was certainly a difficult issue. Especially in the context of the question: "Evaluation for whom?" - the residents? Government? Changes in the environment? Rates of occurrence of illness? And so forth. From the perspective of the residents it might be that nothing has changed:

"The trucks still go past and there is still ash settling over my car and my trees are still dying".⁽⁷⁾

The overall lesson is that there is no single priority or outcome; and for us as workers especially, the advocacy, direct action and group building processes should all be equal aspects of our work.

IN SUMMARY

The long-term inaction regarding their urgent problems - dust on cars, noise levels and so forth - has created a siege mentality in many of the residents, which led to the breakdown of co-operation and information sharing with the Centre. This breakdown has become a major issue - especially for the workers at the Centre. HELP is currently at a precarious stage, but in terms of community development, such a stage in the life of a group may represent a crisis or it may be part of the process of a group gaining independence and consolidation.

Our involvement in this ongoing environmental issue has had many positive outcomes. A self-help group has developed which has provided mutual support and legitimacy for the residents - it has given them a voice and, to some degree, a certain sense of power. Residents' concerns have gained recognition at Government levels and their neighbourhoods have been included in the proposed Environmental Health Management Plan.

The Environmental Health Management Plan has not only had involvement from us, but also from HELP and another environment group. So the Plan



has direct 'consumer' involvement and retains a resident focus.

"(THE) SELF-HELP GROUP HAS
...PROVIDED MUTUAL SUPPORT
AND LEGITIMACY FOR THE RESI-
DENTS - IT HAS GIVEN THEM A
VOICE AND, TO SOME DEGREE, A
CERTAIN SENSE OF POWER."

Finally, as workers, we have learned some valuable lessons about the processes of community development.

Dale Street will continue to be involved in the area of environmental health, as it is something to which the

Women's Health Centre has a commitment. So much momentum has gathered, it would be a pity to lose it.

FOOTNOTES

1. Copper chromium arsenate is a chemical used to preserve wood, for example in the treatment of pine for fences. It is quite deadly and Port River, where it was spilt, is a vital breeding ground for both fish and sea birds.

2. Quote taken from the Residents' survey conducted in Osborne, Taperoo, North Haven and Largs North suburbs on the LeFevre Peninsula, during April - May 1987, by the Dale Street Centre worker and the HELP group.

3. See: South Australian Health Commission, Epidemiology Branch, "Respiratory Conditions Among Residents of the LeFevre Peninsula", draft only, December 1987.

4. As per (2) above.

5. The subsequent report written was entitled, *If You Don't Like It, Move!*, A Preliminary Environmental Health Survey of the Northern LeFevre Peninsula, by the HELP group, June 1987.

6. Epidemiology - history of a 'disease'(s) or epidemic which is prevalent in a community at a specific time.

7. Quote from survey - as per 3 and 4 above.

Skills which are essential for the perfect Community Development Worker!

1. To be in touch and able to listen to the community.
2. To be able to pick one's way through the bureaucracy and avoid being knifed or swallowed up in the process.
3. To know how not to get lost in the local concerns and to keep a broader view.
4. To have heaps of contacts.
5. To be 'thick skinned' but still be sensitive to people.
6. To be clear about what one can do and what one cannot do.
7. The ability to, not only have these skills, but to be able to teach them as well.
8. Group skills - skills in handling difficult people.
9. Gallons of gall.
10. The ability to gain credibility and legitimacy.
11. To have a political and philosophical framework worked out beforehand.
12. To be flexible; to be able to throw all the rest out of the window when need be.
13. To write excellent submissions.
14. To know people in the local press and to be able to get articles in even though the deadline is long past. Plus other media skills, for instance - one needs to know what to do when the "7.30 Report" rings up and needs an opinion on the spot.
15. Last and most important, is that one has to be able to identify any of these skills in someone else so that they can start doing them when exhaustion sets in. Which leads to the last point - enthusiasm can be a real problem - wanting to race away, but having to lasoo oneself and hold back.

Clare Shuttleworth has been involved in community action on industrial and environmental health issues as both a resident and worker in Port Adelaide. Clare is currently Co-ordinator of the Dale Street Women's Health Centre.

Lesley Shorne works as a Medical Officer at the Dale Street Women's Health Centre. Amongst other issues, Lesley has worked on a primary health care approach to environmental problems - this social view of health involves looking at the total person: where they live and work, as well as their physical symptoms.

Author: Clark Shuttleworth and Lesley Shore

Source: This case study is used with the kind permission of the Community Development in Health Project, 230 High Street, Northcote 3071. It has been extracted from *Community Development in Health: A Resources Collection*, Community Development in Health Project, District Health Councils Programme, Victoria, November 1988.

RESOURCE 8

CASE-STUDY 2: FACILITATING TENANT ACTION

The following case study presents the development of a tenants' association on a high-rise public housing estate as a long, slow struggle in building trust.

Flat by flat, floor by floor, the workers canvassed every family - making no promises, but offering to work alongside the tenants in their struggle to tackle 'the system'. Small, achievable wins paved the way toward a growing confidence among the tenants in their ability to bring about change.

The project, spanning six years, was built on the realisation that conventional health services could have little impact on an isolated community living in such appalling physical conditions. The case study demonstrates that successful community development must be based on a commitment to build links between people, and to ensure that the entire process is owned by the participants themselves.

THE EARLY DAYS: SALLY MITCHELL.

BACKGROUND

Flemington is an inner city suburb of Melbourne with large, high-rise public housing estates built in the 1960's. Each of these high-rise towers provide accommodation for one hundred and eighty families, totalling over four thousand people on the estate. The people living on the estate are mainly on low-income. There are large ethnic communities, including Spanish-speaking, Indo-Chinese and Arabic-speaking people. In 1982, when the Flemington Community Health Centre (FCHC) was getting involved with the tenants, the Flemington high-rise estates had the shortest waiting list of any of the Ministry of Housing (MOH) estates; people who desperately needed housing were being sent there, even though they might not have had any links with the area at all. Consequently, the people were very isolated and 'dis-enfranchised'.

The FCHC was established in 1978 as a sister Centre to the Kensington Community Health Centre. In 1982, the Centre was operating from a small house in Flemington. The Centre staff comprised of a community health nurse, a social worker, three bi-lingual health workers, a receptionist and a visiting podiatrist - there were no doctors. In addition, workers funded through other sources were based at the FCHC, such as the legal service worker. All these workers were involved in the initial development of the Flemington Tenants' Association (FTA). At the time, I was working as a social work student on placement with the FCHC and also became involved in this project.

IDENTIFYING THE PROBLEM

It was probably due to the fact that there were no

doctors and that the FCHC operated from a 'normal-looking' house, that people didn't strongly identify the Centre as being a 'health centre'. People who came from the nearby Flemington high-rise estate would drop-in for a coffee and to see one or other of the workers. In this 'drop-in' atmosphere, they were happy to wait for staff members, even though they knew that the worker wouldn't be back for one or two hours. People were coming to the Centre for a range of things, such as complaints about fellow tenants or the appalling physical conditions of the flats and laundries; information on local services in the area; financial assistance; concerns about their kids; and other basic health problems. Often people came in to get one of the workers to make a phone call for them or to sit with them whilst they made calls. Tenants told of the dreadful loneliness of moving onto the estate; of how scared people were to go out at night; of the appalling physical conditions on the estate, such as the flooded laundries; and they'd seek advice on problems which, in less fragmented communities, would be answered through normal community networks - for example - parents of a teething child would seek advice from the Centre as they lacked the usual personal networks which would have informed them that problems associated with teething were normal.

"...THE UNDERLYING PROBLEM
BEING EXPERIENCED BY PEOPLE
WAS SOCIAL ISOLATION..."

We began to realise that the underlying problem being experienced by people was social isolation, and that their visits were because of their need to have contact with people more than anything else. It also became apparent that many of the health problems which people were experiencing, such as depression, were linked to the physical conditions in which they were living. On top of these problems

was an all pervading atmosphere of impotency: "There's nothing we can do to change things". People felt helpless - they'd learnt that it was useless to approach the authorities.

We identified these as the major problems which were affecting the health of the tenants, and thus decided to make them the top priority for the Centre and take action!

Traditional ways of working with the tenants (working on individual problems one - by - one) seemed inadequate. We felt that tenants needed to talk to each other and share their problems.

As the majority of the concerns which we heard from the tenants were tenancy issues, we felt that it would be appropriate to tackle these by initiating a

"TRADITIONAL WAYS OF WORKING WITH THE TENANTS...SEEMED INADEQUATE."

tenants' association. It was thought that a tenants' association would be the medium to both attack and break-down social isolation,

as well as improve the physical conditions on the estate.

Thus in 1982, all the workers from the FCHC decided that the development of a tenants' association should be given high priority. Each member of staff allocated half-a-day per week to work with tenants. The Committee of Management gave support to the workers for this project.

When the FCHC began this project, it was with the knowledge that there had already been two attempts to set up tenants' associations in the past, both of which had failed. It was for this reason that we decided to proceed slowly; one step at a time. As workers, we were also aware that if this attempt of setting up a tenants' association was going to work, two things had to be built into the process:

- a) we had to build links between the people; and
- b) the tenants themselves had to own the process.

Our central strategy from the start was to make personal contact with the tenants.

THE NEED FOR A COMMUNITY SPIRIT

In setting about building links between the people, we decided that because of the high level of social isolation which existed, it would be necessary to start small and build links between people on each floor, then move onto building links between each block (or tower), then the whole estate. It was important for people to get to know each other, to become familiar with each other's concerns and issues, so that a cohesive group would form out of each block. It was felt that the alternative strategy of calling a public meeting would not work as people would find that

too alienating - few of the tenants identified themselves as part of a community which shared common concerns.

THE NEED FOR TENANT CONTROL

In starting with small groups of people, we felt that it would be easier to develop the tenants' skills, their level of communication and to build on their interests so that they could manage the tenants' association themselves, and become active on tenancy issues. As workers, we all believed in the importance of people taking control of their own lives, and thus saw our role as acting as a catalyst for getting the tenants' association going, but ensuring that the direction and management of the group was firmly in the hands of the tenants. This belief demanded that we work intensively in the earlier stages with a view to gradual withdrawal thereafter. We also felt that our involvement in establishing a tenants' group would influence the community's view of us as health workers, and make us appear more approachable. We hoped that it would make the lines between worker and client less defined as we were working alongside the tenants, not for them.

It was hoped too, that some of the case work needs would diminish by having a tenants' association.

STEPS IN SETTING UP THE TENANTS' GROUP

In August 1982, starting with one block at a time, workers in teams of two started door-knocking the flats, floor by floor. We introduced ourselves to the tenants and told them that we were knocking on everyone's door, asking if people had any problems living on the estate. We then told them that maybe by working together with other tenants we could all address some of the problems. We weren't clear, ourselves, of our 'plan' when we began door-knocking. We made no promises that things were going to change. The tenants themselves felt that the problems were enormous, and that individually, they could not see any way around them. As we were being honest about how we felt, we gained a sort of empathy with them. I think if we had gone in and said:

"...IT WAS EXTREMELY IMPORTANT TO SIT AND LISTEN TO THE TENANTS AS THEY WERE FEELING SO ISOLATED AND POWERLESS."

"We think it's disgusting and we're going to have all the laundries renovated by the end of the year",

then everybody would have walked out on us and told us that we were mad! All we were saying was:

"It's an enormous problem ... it seems like an insurmountable task to even think about how we are going to change people's living conditions here, but we're gonna give it a try."

During the door-knock about seventy-five percent of the tenants invited us into their flats, and we usually stayed for half an hour to one hour, listening. We really wanted to hear what people had to say and we'd try to let them know that we were concerned about what they were saying, that someone cared and that their concerns deserved our attention. We would usually leave with a list of six to seven problems. Although this was very time-consuming, it was extremely important to sit and listen to the tenants as they were feeling so isolated and powerless.

"FOR MANY TENANTS THIS WAS THE FIRST TIME THAT THEY HAD SPOKEN TO EACH OTHER..."

After the initial door-knocks the workers chose a family on each floor, who they felt would be most amenable to having a floor meeting in their flat. Someone on every floor agreed to having a floor meeting. These first meetings

(in November 1982) were an incredible success - with about eight of the ten flats on each floor represented! The incentive for people to come to these meetings was the fact that they weren't happy living in their current conditions and we were offering a possible way to change that.

With the assistance of non-FCHC staff, such as the legal service staff and the youth worker, we were able to have two to three floor meetings per night. By and large these meetings were like fairly comfortable 'afternoon teas' - with the FCHC providing free tea, coffee and biscuits. The workers' role at these meetings was to act as facilitators, introducing people to each other (with the use of interpreters where necessary). For many tenants this was the first time that they had spoken to each other, even though they lived on the same floor and had passed and perhaps nodded to each other in the corridors regularly. Workers introduced the tenants to each other by saying:

"Do you know this person over here... who lives next door to you and who thinks that they have a problem with the laundry?"

After this prompting to talk to each other about their concerns, everyone soon found that they all had the same problems, such as having to do their washing standing in three inches of water.

TENANT CONCERNS

Although there was the occasional inter-personal conflict between the tenants at the floor meetings, the majority of the complaints that people wanted to address were the appalling conditions of the laundries, their personal safety, the security of their flats and general maintenance issues. Many people had repeatedly asked the MOH to do various repairs, but these had not been done.

By early December, we were ready to have our first block meeting. This meeting was held in the new Youth Drop-in Centre, which the MOH had recently built at the foot of the block.

This meeting basically reported back the major concerns from the floor meetings.

"OUR SUCCESS WITH THE FIRST BLOCK SPURRED US ON..."

Our success with the first block spurred us on; door-knocks and floor meetings in the second block moved a lot faster as we had the full-time assistance of two students on placement, from the 'Student Initiatives In Community Health' Program.

BECOMING ACTIVE

During 1982, the MOH had begun setting up tenant associations on other estates where they wanted to carry out physical improvements. We had been told that Flemington wasn't on the list for any improvements.

Despite this information, in February 1983, we called a public meeting with the tenants from the two blocks and invited Ian Cathie (then, the Minister of Housing) to the meeting. About two hundred and fifty people attended and they were quite outspoken at this meeting, particularly about the laundries. In fact, one tenant stood up and said:

"Mr Cathie, I don't suppose you do your own washing, but you probably wouldn't want your wife standing in three inches of water like I have to - this is the permanent situation, our laundries are always like this."

After this meeting, there was a vague guarantee given that at some stage the Flemington flats would be placed onto the Estate Improvement Program, but that was to be a long way down the track because there were lots of other estates in front of Flemington.

At this stage, the Flemington Tenants' Association which had emerged from these activities was still a loose, informal body - if you were a tenant, then you were a member. The formal incorporation of this body came at a later stage. The Association held meetings at which issues were raised and decisions made, but the work between meetings was carried out by the FCHC workers. However, the tenants were becoming more and more active. Two sub-committees were set-up: security and maintenance and two FCHC staff members were involved with each.

The maintenance committee was meeting with the MOH staff and talking about the problems that people were having. At the end of 1983, in an attempt to force the MOH into action over promised improvements, this sub-committee arranged for every flat from three blocks to put in an official MOH complaint



Photograph courtesy Flemington Tenants' Association

form for repairs to the laundry - totalling nearly one thousand written complaints! According to the Residential Tenancies law, the MOH had two weeks to complete the repairs.

"...IN AN ATTEMPT TO FORCE THE MOH INTO ACTION...EVERY FLAT FROM THREE BLOCKS...PUT IN AN OFFICIAL MOH COMPLAINT FORM...TOTALLING NEARLY ONE THOUSAND WRITTEN COMPLAINTS!"

The tenants drew up big charts - one which showed what was wrong; and the other to show which repairs had or had not been carried out and any new repairs to be done. At

the end of two weeks, many repairs had not been done, so we called out the media.

The tenants took full control: they put both the charts and laundries on display. Tenants who had been injured as a result of the conditions of the laundries were interviewed. They told of broken arms or legs from slipping on wet floors, and of a washing line that had collapsed on the back of a woman's neck. As a result of this tenants' action, the MOH's architects arrived early in 1984 to draw up plans, in consultation with the tenants, for the renovation of the laundries.

The tenants were also concerned that there weren't enough security guards on the estate and that they weren't around at the right sort of hours to protect people. At a meeting

"...MANY REPAIRS HAD NOT BEEN DONE, SO WE CALLED OUT THE MEDIA."

with the guards and District Manager, which was called by the security sub-committee, the District

Manager stated that it was feasible to change the hours of the guards. Although the hours were not changed a great deal, just an hour each way, the ten-

ants felt a little more comfortable. It was a great 'win' for the tenants - they had spoken out about something, they had been heard and something had changed.

By this time, the MOH and the FCHC had jointly organised funds for a worker to assist the Association. It was then that I was appointed as the worker and my role involved supporting the Association and co-ordinating the Health Centre staff who were working with it. After three months of joint funding, the position was fully funded by the MOH and I became the employee of the FTA.

"THE LOCAL DISTRICT MANAGER... WAS COMMITTED TO THE IDEA OF TENANTS TAKING MORE CONTROL OF THE ESTATES."

The local District Manager of the MOH was committed to the idea of tenants taking more control of the estates. He supported the Association in significant ways. For example, when I approached him for a flat for the group to work from - he was willing to provide one. He also supported tenants being on interview panels for estate office staff.

Perhaps because of the ease with which the flat was obtained, the tenants took a long time to actually feel that they owned it. They seemed to see it as belonging to me - as I was the person who was working there. So for the first six weeks I sat in an empty flat - without furniture - and kept telling the tenants: "It's yours, you'll have to decide what furniture you want." Eventually, people started bringing carpet and furniture that they no longer needed and began using the flat. Initially, the flat was used as a meeting place, then as a workspace for the Association and, eventually, it became a very social place - a focus for the estate.

For the tenants, the first priority was achieving physical improvements - and they had demonstrated that by working together they could achieve this. Their second priority was the building of social links and this was, indeed, happening along the way. People looked forward to meeting others and a strong sense of solidarity began to grow with each new achievement.

THE FLEMINGTON TENANTS' ASSOCIATION TODAY: GAIL PRICE AND BERNADETTE McMENAMIN

The FTA has continued to evolve since its inception in the early 1980's. A lot of change has occurred and these have been due to a number of factors, such as staff changes, the political environment, the changing roles of local agencies and the change in location (from a three bedroom flat to community complex).

Today within the Association there is a 'core group' of active members. These are the tenants who staff the office on a roster system, those who assist in the physical maintenance of the building and committee members. These members are encouraged, 'nurtured' and trained. However, as the achievements of the group have accelerated, members have taken on an increased responsibility for this rather than the tenant workers.

The committee structure, which began with two committees, then developed into five, has now been streamlined into three committees (administrative, estate improvement and security), which meet on a monthly basis. These committees have representation

from Vietnamese, Chinese, Spanish-speaking and Arabic-speaking tenants.

The floor representative system has now become unwieldy and thus is not utilised as much as it used to be. If it were run in the same manner as previously, it would mean having one hundred and fifty meetings each year, as well as requiring further maintenance through door-knocking. The floor representative system was an attempt to link tenants by the floor they lived on, rather than by common issues, beliefs or language. The problems which were being brought up were usually ones which could either be more productively handled through existing meetings, or were unable to be solved by the FTA, because they were tenant disputes. Floor meetings had set up the expectation that problems caused by the communal nature of laundries, drying areas, lifts and rubbish chutes could be solved. Some sense of neighbourhood was developed during the first floor meetings and this did resolve some tenants' disputes.

Another reason for the relaxing of the floor representative system is because of the increase in numbers of tenants using the FTA, indicating that the FTA is now well-known and that it is no longer necessary to encourage participation floor - by - floor. Instead, participation is encouraged through the three committees; bi-monthly language specific meetings (five languages); an older people's group; social events such as trips, lunches, celebrations, activities and the resourcing of tenants to set up other specific groups, for example, El Salvadorean Club, Vietnamese

"THE HEALTH CENTRE WORKERS
WITHDREW FROM AN ALREADY
UNDER-RESOURCED COMMUNITY..."





Women's Group, Arabic Group, Women's Group, Turkish Prayer Group and so forth. Some of the ways that groups are assisted are by having a regular place to meet, assistance with submission writing, information or assistance in organising activities and events. New tenants are door-knocked and elderly tenants are door-knocked each month by the FTA. All these methods have resulted in a multi-cultural and a multi-aged representative group.

"...THE FTA IS NOW WELL KNOWN AND...IT IS NO LONGER NECESSARY TO ENCOURAGE PARTICIPATION FLOOR-BY-FLOOR."

The FTA also manages its own security company which is unique in its nature: 'Highrise Security' employs multi-lingual male and female guards from the estate and an estate-based supervisor. Foyer and patrol duty are included each night.

THE RELATIONSHIP BETWEEN THE FTA AND FCHC TODAY

The first twelve months of the FCHC's involvement with the Flemington tenants saw the establishment of a tenants' association as the top priority. The following twelve months saw a transition from a FCHC focus to one where the onus was on the tenants to take control. That is, four staff members who were putting in time regularly every week, gradually withdrew as time went on.

"...THE FTA ALSO MANAGES ITS OWN SECURITY COMPANY WHICH IS UNIQUE..."

In retrospect, we now feel that the withdrawal of the FCHC was mis- interpreted. Whilst it was important for tenants to take control of the FTA, this was not

to say that the FCHC no longer had a role on the estate. The estate has the greatest population of people within Flemington who are discriminated against or disadvantaged by income, race, gender, various health disabilities and lack of survival skills and education. The Health Centre workers withdrew from an already under-resourced community, leaving tenants with initially only one, and then two, tenant workers to draw on. Certainly the role of the Health Centre needed to change to become one where they resourced and worked with the Association on projects determined by tenants. The Health Centre could have continued, along with the FTA, to work

"TODAY, TENSION PREVAILS BETWEEN THE TWO GROUPS..."

with groups such as women with RSI, unemployed men, young people and isolated elderly - so as to tackle the issues affecting their lives. As with the initial establishment of the tenants' association, it was, and continues to be important for the Centre staff to do outreach work and door-knocking on the estate.

The FTA is enabling tenants to take control of their lives and their environment to the extent where the

group has some very clear ideas of how agencies should service its members. Tenants have taken steps to have their views heard: by joining the FCHC Committee of Management, offering to have a representative on the Health Centre's interview panels and supporting the Health Centre's campaigns (for example, Dental Health Campaigns). Health Centre staff are invited to elderly lunches and meetings on health issues, and both groups participate in the Flemington Community Network.

"COMMUNITY DEVELOPMENT IS...AN ONGOING AND COMPLEX PROCESS."

Today, tension prevails between the two groups because the tenants' association believes insufficient developmental work is being done with tenants on the estate.

IN SUMMARY

The FCHC was successful in setting up a tenants' association to address the people's social needs, and to give them a feeling of being empowered to do something about their concerns.

The ongoing success and development of the FTA can be attributed to several factors such as:

- the initial approach of the FCHC: the time commitment, working slowly in small groups, building people's skills and a sense of community, listening to the tenants' needs and taking direction from them;
- the commitment of the original tenant worker;
- the initial door-knocking of the estate for a sound beginning;
- the rewarding achievements of the group, for example, estate improvements, better security, the community complex, murals and festivals;
- funding by the Ministry of Housing and Construction for the core functions of the group;
- the political commitment and hard work of the

Photograph courtesy Flemington Tenants' Assoc.



tenants and tenant workers for tenant rights, social/environmental change and empowerment of the group; and

- the support of other organisations and individuals.

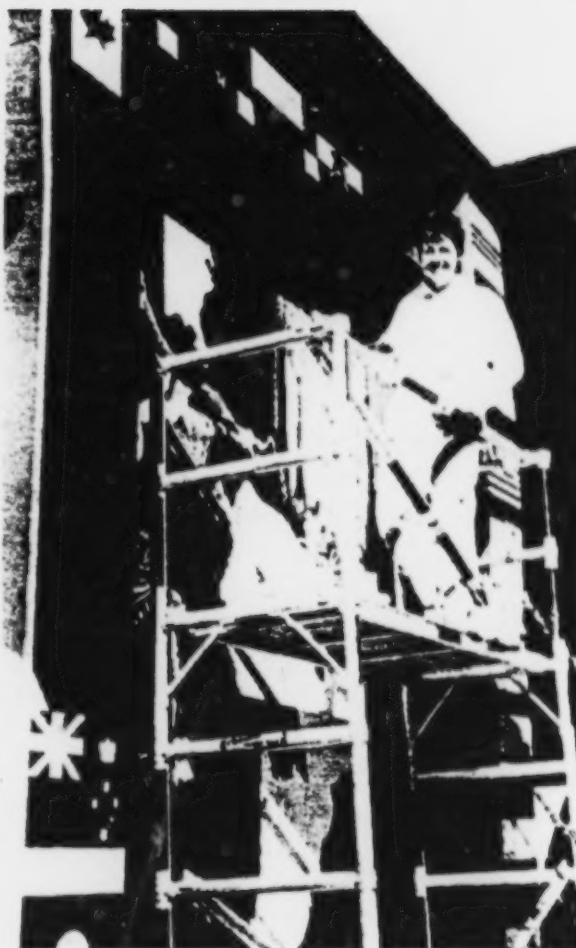
Community development is, however, an ongoing and complex process. Once a group is set up, it requires continued support to consolidate and progress, with the supporting organisation being sensitive to the changing role it needs to be playing. The Health Centre withdrew so that the Association would develop its own identity and advocate on behalf of tenants, but without looking to its ongoing role.

The FTA was envisaged as a pressure group to lobby the Ministry Of Housing. This has certainly happened but the group has also taken on a strong representative and advocacy role in areas of tenants' lives outside housing issues. The fact that the FTA has come into its own as an advocacy body can be demonstrated by its willingness to take up contentious issues and challenge the FCHC - the very body which assisted its development!

Sally Mitchell is currently employed at the Fitzroy Community Health Centre and has worked in community settings for the past six years. The focus of Sally's work is skills development with 'disempowered' people.

Gail Price has worked on the Flemington Ministry of Housing and Construction Estate for over five years, first as Co-ordinator of an after-school program and then as a Tenant Worker.

Bernadette McMenamin has worked in public housing for five years, first in West Heidelberg and then for four years in Flemington.



Authors: Sally Mitchell, Gail Price and Bernadette McMenamin

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RESOURCE 9

CASE-STUDY3: HEALTH IN A SOCIAL AND CULTURAL CONTEXT

This case study follows the development of a series of camps for Koories with diabetes, which addressed the problem of diabetes in a 'caring' framework.

The camps aimed to tackle health in a social and cultural context. They were held in a rural setting and the key features of their success were the involvement of family members as well as those with diabetes; and the emphasis on participation.

Awareness raising, skill development, commitment to diet and lifestyle changes and friendship building were all important outcomes of the camps.

Empowerment was another important aspect of the camps: they were organised and run by Koories; their primary focus was on Koories with diabetes taking control of their condition; and the de-mystification of professional knowledge.

This case study represents a simple strategy reaping multiple outcomes.

INTRODUCTION

The majority of Koories⁽¹⁾ in Victoria experience the low standards of health associated with other low income groups. Inadequate income results in inferior housing, nutrition and access to health care, amongst other things. Statistics show that among Koories, health is much worse than the average Australian, and diabetes, although rare prior to white settlement, today features high on the list as a cause of early death.

While all the reasons for the high incidence of diabetes are not known and there may be some genetic factors, nevertheless there are contributing factors which can be controlled - like diet, access to information and treatment.

As the Aboriginal Hospital Liaison Officer at St. Vincent's Hospital (Melbourne), I was involved in initiating a program which was designed to tackle some of the problems of educating Koorie diabetics about their disease and its management.

Through my work with Koorie communities throughout Victoria and as a Koorie with diabetes myself, I have gained a good understanding of this wide-spread condition and the special problems associated with it in the Koorie community.

The health system does a lot for diabetics, but medical staff seem to forget just how difficult it is when a diabetic goes home. There is a lack of communication and a lack of knowledge - the family, even my family, do not understand. You're taught, but your family knows nothing, when you go home and need their support and guidance, you don't get it because they don't know what you are on about.

GOVERNMENT RESPONSE

Back in 1980 the Government responded to the health needs of the Koorie community by establishing the Aboriginal Health Resources Consultative Group with a sub-committee focussing on diabetes. This sub-committee confirmed the wide-spread occurrence of diabetes by conducting a sample random survey of a total of fifty Koories in Ballarat and Baimsdale. Five new diabetics were identified in both groups - that's a total of ten percent increase in two, quite separate communities.

In 1982, I established a diabetic support group at St. Vincent's Hospital, and was approached by a worker from the Lions

International Diabetes Institute (Sandy Gifford, a medical anthropologist) who wanted some advice

on how to involve Koories in diabetes education programs elsewhere. I explained that with programs run in hospitals along traditional lines, Koories might turn up for one session because their doctors had told them to go to this education program, but many would be unlikely to return. A hospital is like any big institution - Koories feel like strangers in the white person's (gubaa's) bureaucratic system.

ORIGINS OF THE CAMP

It was from this discussion and others with the medical staff at St. Vincent's Hospital that the idea of holding a Koorie diabetic camp arose. The idea for the camp was not just for diabetics, but for the members of their families as well. We decided to specifically target these camps to people who lived in the country, as these people are often the ones who have

least access to information and services. Therefore, we felt that a bush setting would be the best place to hold such a camp as it is more in line with where people live in the country. These camps are more than education camps - they're real 'get togethers'.

The first camp, held in October 1985 at Camp Jungi, Rubicon Lane, Thornton (Victoria), near the Eildon Weir, was funded by the Lions International Diabetes Institute, but it took twelve months of hard slog beforehand to educate the professionals and the Koorie community. For example, the Dietician needed to know that Victorian Koories are meat eaters. Subsequent camps have been held each year. (In 1988, the State Health Minister, David White, granted ongoing funding for the camps.) The camps are run over five days with participants and organisers 'living-in' at the camp site - sharing accommodation, meals and recreation time. The content of the education program⁽²⁾ is similar to standard programs, but care is taken to discuss all issues in the appropriate context of Koorie culture.

THE CAMPS

The idea behind the camps was that they'd be run by Koories, this meant involving Koories from all over Victoria right from the beginning, even before we had the funding for the first camp, and maintaining this involvement before each camp. This emphasis on

Koorie management has always been essential for the Koorie community to collectively take control of the problem of diabetes on their own terms.

As I'm pretty well known in the Koorie community (I've been involved with my people in a working capacity for nearly twenty-five years and I've travelled and lived all over the State), I used my contacts with local Koorie Hospital Liaison Officers, Koorie co-operatives and the Koorie medical services around Victoria, and asked them to choose Koories with diabetes and their families to attend meetings with me. At these initial sessions, I explained the idea of the camps to the people:

- that it was a chance for Koorie diabetics to learn about their condition and gain the self-care skills involved;
- that their families were encouraged to come and take part too;
- that it wouldn't just be a lot of boring lectures, but include other activities;
- that we'd discuss the social, economic and political problems associated with being a diabetic; and
- that Koories would be organising and running the camp.

Although I have made it my role to conduct these pre-camp meetings each year, the essential point is that it is a Koorie who is running the meetings. As a result of this approach, the 1985 and 1986 camps both had around thirty people and by 1987, the camps gained much greater acceptance among Koories with sixty-four people attending!

By and large, most people who attend the camps are pensioners or people who are on very low incomes. They come from all over Victoria, including Horsham, Dimboola, Stawell, Portland, Morwell, Bairnsdale, Mildura and so forth. In addition, the 1987 camp had people travelling down from Alice Springs, and New South Wales.

I call these camps 'Togetherness Camps' because they bring people together who don't normally get to see each other - which often happens in our community. A brother or sister live in Bairnsdale and the rest of the family live in Mildura. Diabetes is an inherited disease so the camps have this side benefit of bringing relatives together. People come for a variety of reasons, some because they want to be able to help a diabetic father or mother:

"DIABETES IS AN INHERITED DISEASE SO THE CAMPS HAVE THIS SIDE BENEFIT OF BRINGING RELATIVES TOGETHER."

"The reason I came here is, I've been associated for over twenty-five years with a chronic diabetic. I came along because I had a compassion but not the understanding of the need for support."⁽³⁾

CAMP JUNGAL





Photograph courtesy Joan Vickery, Koore Health Unit

"I came (to the camp) to learn about diabetes so I could help my father. It's been good. I learnt a lot about diabetes and health in general. The things I've learnt about eating meat and how the diets changed over the years, I never knew that."

Others attend the camp because they've recently acquired the condition and want more information.

"I've had diabetes for three years... I didn't know anything about diabetes. Nobody had ever sat down and explained it to me"

"I came to the camp cause, well I didn't know I had sugar in my blood till I came to the camp. I knew in my water but not in my blood. Every time I tested it would be negative."

"I've only had diabetes fourteen months. No-one talked to me about diabetes, there were no counselors at the doctor's surgery. I even went to the library and I couldn't find anything."

The longer term sufferers come to get more information and to meet other diabetics and many come as a direct result of the initial meetings, which precede the camps:

"I've had diabetes fifteen years. I went up to Rumbalara and Joan was there and she said I could come here."

"Being a diabetic for eighteen years, I'm glad I came cause I met a lot of other diabetics. When you don't meet people, you don't know there are so many around... Meeting others with diabetes takes the strain off you."

"Sixteen or seventeen years I've had diabetes. Five out of seven of us in our family had diabetes. I had a brother on insulin and the others on tablets. I came to the camp to find as much info. as I could about it, seeing we were all affected by it."

The camps have a 'holiday' atmosphere and this is an important element in encouraging people to come. Many people have attended several camps and use them as a means of reporting and keeping up their commitment to maintaining changes to diet and lifestyle.

PROGRAM DESIGN

The content of the camps involved contributions from Koories and medicos alike. Prior to the first camp in 1985 a workshop was organised involving key people from throughout the State - Koories, diabetics, non-diabetics, doctors and health educators. We 'brainstormed' and discussed all sorts of ideas and eventually came up with a five day program which, although it varies a bit from year to year, has been used ever since (see footnote 2). The program is distributed at each camp and if people want to raise an issue which isn't covered, it immediately gets included in the program. In addition, the participants are involved in an evaluation of each camp. Issues raised in these evaluations are included in subsequent camps.

The emphasis of the program is on participation and practical demonstration. The participation is very important, if the health professionals were doing all

the talking - saying what 'should' or 'should not' be done, people would stop listening, especially Koories. At all times we attempt to link the program to the particular circumstances of people's lives.

SMALL WORKSHOP GROUPS

We spend most of the days in small workshop groups which follow the input from the team of doctors, dieticians and diabetes educators. These workshops, through the use of practical exercises, activities and role-plays, allow for real participation and discussion - they give the participants a chance to apply the material to their own lives and circumstances. They also provide the opportunity to share experiences and learn about how each copes with the difficulties created in the lives of Koorie diabetics.

A further form of participation and empowerment which has been built into the camps is the production, by the participants, of booklets and posters for Victorian and interstate Koorie communities about diabetes and its effects, and about the camps themselves.

The special problems faced by Koories with diabetes go far beyond their lack of knowledge about the condition - they extend right back to the cultural tradition of our people and arise out of the impact of white settlement. During the camps, discussion about

these special problems have raised a number of important points.

i) **Traditional diet.** Diabetes was rare among Koories prior to white settlement.

Now they can't return to their natural high quality diet - few Koories are experienced in obtaining and preparing traditional foods anyway.

ii) **Regulating diet.** Being on low income makes it difficult to buy the right food: "most healthy food items cost more than junk food". "Living in a large family and coping with one diabetic means preparing two sets of meals with two different budgets".

During the camp, a day is set aside to look at nutrition and food. In the evening, the meal is designed to follow-up some of the issues which were raised. So for instance, the young men build an underground oven (or 'Hungy') in which the entire meal is cooked - chicken, pork, lamb, pumpkin, potato and cabbage. No fat or oil is used and it demonstrates how delicious a balanced, nutritious meal can be. The same practice is used with fish, where people barbeque their fish in foil, instead of using oil.

iii) **Side-effects.** For diabetics: "Other illnesses are more likely - so it's hard to adjust". These side-effects include weakness in legs; sores on legs and feet; poor eyesight; sleepiness; absent-mindedness; unbalanced

"...MOST HEALTHY FOOD ITEMS
COST MORE THAN JUNK FOOD."

"THESE ROLE-PLAYS ALSO EDUCATE
THE MEDICAL TEAM AS THEY
SEE HOW KOORIES SEE THEM."

"AT ALL TIMES WE ATTEMPT TO
LINK THE PROGRAM TO THE PARTI-
CULAR CIRCUMSTANCES OF
PEOPLE'S LIVES."

Photograph courtesy Joan Vickery, Koorie Health Unit





gait (which can be mistaken for drunkenness and sometimes results in arrests).

iv) **Understanding.** "I don't understand why my diet has to change"; "there's not enough education and information provided".

In addressing these issues, we use practical exercises, such as, blood sugar level tests and role-plays,

"...WE USE THE EVENINGS AS RECREATION TIME SO THAT PEOPLE CAN SOCIALISE AND GET TO KNOW OTHER PEOPLE..."

where we set up a situation representing the roles of doctor and patient. In this way participants learn about their right to ask

questions of doctors and to demand a doctor's full attention. These role-plays also educate the medical team as they see how Koories see them. On the day we're discussing hypoglycaemia we take the participants on a walk for exercise.

Other issues are harder to address, such as:

v) **Medication.** "Most Koorie diabetics live in town camps and have no fridge, that means they have trouble stocking foods and diabetic medicines".

vi) **Isolation.** Their lack of access to medical services creates further problems: "Living in remote areas with no transport means having to rely on health workers".

(These comments were about Aboriginals who live in the centre of Australia.)

Of course the camps are not all work, we use the evenings as recreation time so that people can socialise and get to know other people, including the medical team and organisers. We have darts, hockey competitions, lawn bowls and bingo.

DE-MYSTIFYING PROFESSIONALS

Whilst the camps, themselves, are run by Koories, the education team - which includes doctors, dieticians and diabetic educators - is made up of white professionals, for example, one doctor from St. Vincent's Hospital, one doctor from the Aboriginal Medical Service (Melbourne) and a nurse educator from the Lions International Diabetes Institute. We've been lucky to have had very sensitive professionals

"DEVELOPMENTAL PROGRAMS LIKE THE CAMPS ARE ALWAYS HARD TO EVALUATE IN TERMS OF CONCRETE OUTCOMES."

who are prepared to listen, rather than taking the standard approach of professionals of just going off and doing what they usually do in a hospital or medical centre

situation. Our team members have always been prepared to adjust their approach and follow my advice: before talking to a group, we'd sit down and go through it together - in this way we could fine-tune the content for example, type of terminology used, so as to make it relevant to Koories and accept-

able to communities from different parts of the State.

This sensitivity of the professional is all important, as one participant put it:

"The dietician, the doctors and the nurse, who ever picked them out, well, they were spot on! Especially how they communicated to the Koories. They were easily understood. It took a couple of days to work out who the doctor was! He blended in so well!"

A big function of the camps is breaking down the suspicion which surrounds medical professionals. Role-plays, involvement by the professional team in all the social and practical activities and the live-in nature of the camps, all help in making the professionals more 'human' in the participants' eyes. At the start of each camp every member of the team introduce themselves - who they are, where they work, whether they are married, how many kids they have and so forth. The general Koorie attitude is: "if you're going to be working with me, I want to know a little bit about you".

OUTCOMES

Developmental programs like the camps are always hard to evaluate in terms of concrete outcomes. The fact that we have had such a huge attendance and interest shown at the camps signifies that the camps are important to the people. It's clear that participants gain a great deal of information and leave with a much clearer understanding of their condition. The following comments were recorded at the evaluation of the 1985 camp:

"I found out a lot I didn't know. I found out about not eating too much meat and eating bread and potatoes and plenty of vegetables and fruit. I met people and got to talking."

"...THE CAMPS HELP TO STRENGTHEN THE PARTICIPANTS' WILL TO CHANGE..."

"It was very interesting. Communicating with other diabetics was good and I learned a lot more from them. I learned a lot about smoking and what it does to your feet and legs. I knew what it did to the lungs but not the feet and legs. I liked the discussions. That was good the discussions different people had."

"I've accompanied Ruth over the years to doctors that were dictatorial. I wasn't interested. But here, the collective interest is good. You become involved yourself. Otherwise you're just sitting on the outside. Here this can't happen. It's the result of the discussion groups. The relaxing atmosphere was beneficial to everyone and I'm looking forward to any further involvement in discussion groups for diabetics."

Whilst responses like these are rewarding for the organisers and show that we have achieved what we

set out to do, they are not the hard, concrete outcomes which the Health Department requires.

"MORE MEASURABLE OUTCOMES HAVE EMERGED IN THE FORM OF INDIVIDUALS SEEKING MORE APPROPRIATE MEDICAL SERVICES."

We certainly can't claim that the camps have permanently changed the participants' lifestyles. It's clear that education alone is not enough - the camps help to strengthen the participants' will to change but circumstances remain the same. Low income make it extremely difficult to stick to the right diet; Victorian Koories are meat eaters so the transition to more vegetables in the diet is hard; and fast food is such a temptation. Nonetheless, small, long lasting diet and lifestyle changes are achieved by some participants, as shown by the following comments:

"The special thing learned was about my diet. I didn't know I could eat bread and potatoes."

"I learned a lot... about this here new diet. If I hadn't a come, I'd still be on that old diet I reckon. And the bread and the spuds are more filling than the meat."

"I learned about the new diet. I was educated in the old way. The new diet isn't so hard!"

More measurable outcomes have emerged in the form of individuals seeking more appropriate medical services. This comes about because the camps help them break through some of the fear and suspicion

with which they view white professionals and institutions. For example, one participant who was on medication, but who obviously needed stabilisation, took action following the camp. She came to Melbourne and chose to go to hospital where she received the treatment that she needed. She realised during the camp that her eyesight was being affected by her condition and proceeded to undergo laser treatment and to wear glasses. Her own self-care has also improved. This example is typical and many participants who attend the camps seek out and become more receptive to medical assistance.

"KOORIES ARE ABLE TO RELATE TO THEIR PROBLEM IN THEIR OWN TERMS."

CONCLUSION

It has now been three years since our first camp and each year since we have been attracting greater numbers. People are interested in the camps because of the way they are structured. The emphasis on participation provides the opportunity for Koories to take control of the problem of diabetes, both individually and collectively. The fact that the program looks at diabetes in the context of the particular circumstances and culture of Koories means that Koories are able to relate to their problem in their own terms. The camps have provided people with many benefits: the opportunity to gain greater information on diabetes; to share experiences and other issues of common inter-

Photograph courtesy Joan Vickery, Koorie Health Unit





ests; to strengthen links and for many, to reinforce the commitment they made to life-style and diet changes. We also hope that Koories leave the camps with less suspicion and fear of the medical profession and that the health professionals realise the need for change to the traditional manner in which Koorie diabetics are treated.

FOOTNOTES

(1) Koorie is the term that Victorian Aboriginals prefer to be known by. It is a traditional language term which means: "One of Us".

(2) THE PROGRAM:

Monday

What do you think causes diabetes?
How did you feel when the doctor told you that you had diabetes?
How does it feel being a Koorie and having diabetes?
Is it harder for Koories to follow diabetes treatment? and why?
How does having diabetes affect your life?

Tuesday

Developing lists of food groups:
- Starch (low and high fibre)
- Sugars
- Fat foods (pure and high).
Listing good diet.
How can you reduce your fat intake and still enjoy eating meat?
How can you eat and drink when out, without upsetting your diabetes?
Food for diabetics - our thoughts.

Quick alternative meals at home.
Alternative meals to suit the whole family.
Recipes and Menus.
What are the best kinds of take-away foods?
Group ideas for a leaflet about food for diabetics.

Wednesday

Role-plays by doctors, nurse and diabetic educator.
How do you choose your doctor?
Your rights as a person and so forth.

Thursday

Blood sugar - causes
- how do you feel when you have it?
- what can you do about it?

Friday

Changes needed in this program.
What would you like to learn about?
What was good about this camp?

'Fun' Activities During The Camp:

Boat cruise, Bingo, Bike riding, Dart competition, Hockey

(3) This quote and all others that appear are taken from: Victorian Aboriginal Sugar Diabetes Camp, October 1985. This booklet was produced from comments by the participants of the 1985 camp.

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Author: Joan Vickery

Source: This case study is used with the kind permission of the Community Development in Health Project, 230 High Street, Northcote 3071. It has been extracted from *Community Development in Health: A Resources Collection*, Community Development in Health Project, District Health Councils Programme, Victoria, November 1988.



COMMUNITY *based* ENVIRONMENTAL EDUCATION

EDWARD ERRINGTON & IAN ROBOTTOM
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INTRODUCTION

It is generally agreed that the most important and challenging kind of environmental education is "education for the environment" in which teachers and students engage in critical studies of environmental issues in their own locality. This kind of environmental education entails critique of the assumptions and values underlying alternative and often opposing proposals for action in respect of environmental issues. There are a number of requisite conditions to "education for the environment", for example:

- a capacity to engage in studies outside the classroom;
- a willingness to base a curriculum on the investigation of a probably controversial environmental issue;
- a recognition that the local community is the appropriate source of environmental issues upon which to base a curriculum;
- a preparedness to adopt a politicised view of environmental problem solving and curriculum work;
- a recognition of the need for creating the conditions for students to critically appraise the assumptions and values underlying environmental action proposals;
- a willingness to consider the role that curriculum can play in social change aimed at environmental improvement.

This workshop illustrates an instance of community-based education for the environment, explores some of the different meanings embedded in material designed with education for the environment in mind, and invites participants to consider some of the practical and theoretical implications of adopting this approach to environmental education in their own educational settings.



OUTCOMES

It is expected that participants in this workshop will:

- identify a number of local environmental issues;
- observe a pictorial account of an actual instance of "education for the environment";
- engage in a critical analysis of this account — by deconstructing its meanings and reconstructing alternative meanings for the same pictorial account;
- gain an appreciation of the way in which media depictions of environmental and environmental education events are in fact reconstructions for public consumption;
- connect these understandings with their own educational experiences;
- invoke these experiences and understandings in working towards an improved set of principles qualifying "education for the environment".

WORKSHOP OUTLINE

The workshop will involve participants in small groups in constructing a number of alternative interpretive accounts of an instance of "education for the environment" depicted in a series of photographs. These constructed accounts will be compared with an "original" commentary and "official" published accounts of the instance, with a view to illustrating how easy it is to adopt a non-politicised view of environmental education.

The workshop will also take a look at some of the literature on critical community-based environmental education, and work towards an improved set of principles qualifying "education for the environment".

MATERIALS REQUIRED

OVERHEAD TRANSPARENCY MASTERS

OHT 1: Environmental Education

OHT 2: Workshop Objectives

OHT 3: Education for the Environment

OHT 4: Professional Development in Environmental Education

RESOURCE

Resource 1: The Environmental Education and Computer Conference Project: A Case Study

READINGS

Reading 1: Robottom, I. & Muhlebach, R. (1989) Expanding the scientific community in schools: A computer conference in science education, *Australian Science Teachers Journal*, 35 (1), 39-47.

Reading 2: Robottom, I. (1987) The dual challenge for professional development in environmental education, in *Environmental Education - Past, Present and Future. Proceedings of the Third National Environmental Education Seminar and Workshops*, Australian Government Publishing Service, Canberra, 80-82.

ACTIVITIES

1. INTRODUCTION: ENVIRONMENTAL GRIPE AUCTION

In this warm-up activity, environmental concerns are "auctioned" to identify the environmental concerns most worrying the participants.

- Distribute (or ask each participant to provide) a slip of paper 5cm square.
- Ask participants to write down a one- or two-word statement identifying a particular environmental issue that they are aware of, or concerned or amazed about.
- Collect the "gripes" and read each one out, in turn, as one by one, they are put up for auction.
- Auction instructions: Each person has one hundred points to spend and cannot bid over this. A record should be kept of the number of points each gripe is sold for. When the auction is over, the people who have purchased cards explain why their particular "gripe" is important, and how it is likely to affect their lives and those of others.
- Discussion may be held about why the gripe attracting the greatest number of points is of such high interest and concern to the group.

2. EDUCATION FOR THE ENVIRONMENT

- Use OHT 1 to differentiate the three kinds of environmental education: "education *about* the environment"; "education *in* the environment"; "education *for* the environment".
- Invite discussion about the meanings embedded in this trichotomy.
- Use OHT 2 to outline the objectives of the workshop.
- Use OHT 3 to outline the characteristics of "education *for* the environment".

3. THE CASE STUDY

- Introduce the context of the environmental education work depicted in the case study (Resource 1). Ask participants to read the case study, noting the images contained in the photographs.
- Reading 1 provides background information on one of the case studies and may be used to answer participant's questions on Resource 1.
- Ask participants to evaluate the case study using the characteristics of education *for* the environment on OHT 3.
- Introduce to the group the next task of *deconstructing the case study presentation* by pointing out the role of:
 - the image of each individual photograph;
 - the sequence of images in the case study; and
 - the commentary in presenting a "story" of a particular kind — in reconstructing the actual events for public consumption.
- Invite discussion among the group about such questions as what messages are included in the presentation as given, and what alternative messages are *not* included. For example, what additional or substitute commentaries could be allocated to each slide, and what differences in order of presentation of the slides would be possible? What impact do these alternatives have for the meaning of the overall presentation?

4. RESPONDING TO THE CASE STUDY THROUGH DRAMA

Educational drama is one way of responding to analytical questions such as these in a concrete and practical way. Participants work in groups of 5 or 6 and require their copies of the case study in Resource 1.

A. Create a "tableau" to represent the message in a chosen image

- Ask each group to examine the photographs in Resource 1 and to select an image that is capable of more than one interpretation.
- Label the members of each group (a) to (e).
- Person (a) is given the task of organising other group members into a human "tableau" (a human still photograph or human sculpture) to represent the message of the chosen image exactly as it is. Person (a) may well be a part of the tableau.
- Each group member should have an opportunity to work around and examine the human tableau. Then disassemble the tableau.
- Each group is to compose a new single written caption which captures the essence of its tableau.
- Debriefing: Ask members from each group to articulate the decisions made regarding the choice of image, the arrangement of the tableau and the caption.

B. Creating a "tableau" to represent an alternative message of the chosen image

- Participants work in the same groups with the same image as chosen in Activity 4A.
- Person (b) is given the task of organising other group members into another human tableau to represent the chosen image as it might be - that is, to convey a message of a different kind. Person (b) then becomes part of this tableau.
- After each group member has had the opportunity to walk around and examine the human tableau, disassemble the tableau;
- Each group composes a new single written caption which captures the essence of this new sculpture.
- Debriefing: Ask members from each group to articulate the decisions made regarding the choice of slide, the arrangement of the tableau, and the caption.

C. Displaying and analysing the tableau

- Ask each group to quickly reconstruct its first and then its second tableau for all other groups to view.
- Invite each group to articulate differences between the first and second captions and their justifications.
- Invite discussion on the following questions:
 - What are your thoughts and feelings about the first and second representations?
 - What has been included in the first representation that has been excluded in the second representation (or vice versa) and why?
 - Explain why you have depicted aspects of the representation (eg the teacher's role, students' role, the social context, perceptions of the environment,

the use of materials, etc) in these particular ways rather than in other ways.

- What is the relationship between these depictions and the context within which they occur - your own personal histories and experiences, your understanding of certain environmental issues, the social contexts of schools with which you are familiar?
- What do you think might be the implications of engaging in these kind of activities with students of your own?

5. EVALUATION

Participants have now had an opportunity for assessing the above activities in terms of their feasibility in educational settings.

We are proposing a self-evaluation in the form of an appraisal of the above experience in terms of the sense in which it is consistent with the principles of professional development in environmental education set out by Ian Robottom (1987) in Reading 2.

- Use Reading 2 and OHT 4 as the basis of a mini-lecture on the characteristics of effective professional development in environmental education.
- As a group appraise the ideas embedded in the principles on OHT 4. How was each of these principles used in this workshop? Are they really feasible? Can you think of ways of improving these statements of principles?
- *Follow-up Activity:* Participants develop their own photographic record (slide collection) on an environmental issues of interest or concern to them. Using this material, repeat the above activity in basically the same critical way.



OHT 1

EDUCATION ABOUT THE ENVIRONMENT

- Provides understanding of how natural systems work
- Provides understanding of the impact of human activities upon them
- Develops environmental investigation and thinking skills

EDUCATION IN THE ENVIRONMENT

- Gives reality, relevance and practical experience to learning through direct contact with the environment
- Develops important skills for data collecting and field investigations
- Develops aesthetic appreciation
- Fosters environmental awareness and concern

EDUCATION FOR THE ENVIRONMENT

- Builds on education *in* and *about* the environment
- Develops an informed concern and sense of responsibility for the environment
- Develops an environmental ethic
- Develops the motivation and skills to participate in environmental improvement
- Promotes a willingness and ability to adopt lifestyles compatible with the wise use of environmental resources.

OHT 2

WORKSHOP OBJECTIVES

- identify a number of local environmental issues
- observe a pictorial account of an actual instance of “education *for the environment*”
- engage in a critical analysis of this account — by deconstructing its meanings and reconstructing alternative meanings for the same pictorial account
- gain an appreciation of the way in which media depictions of environmental and environmental education events are in fact reconstructions for public consumption
- connect these understandings with their own educational experiences
- invoke these experiences and understandings in working towards an improved set of principles qualifying “education *for the environment*”



OHT 3

EDUCATION FOR THE ENVIRONMENT

For environmental education to be education *for* the environment, there needs to be:

- a capacity to engage in studies outside the classroom
- a willingness to base a curriculum on the investigation of a probably controversial environmental issue
- a recognition that the local community is the appropriate source of environmental issues upon which to base a curriculum
- a preparedness to adopt a politicised view of environmental problem solving and curriculum work
- a recognition of the need for creating the conditions for students to critically appraise the assumptions and values underlying environmental action proposals
- a willingness to consider the role that curriculum can play in social change aimed at environmental improvement

OHT 4

PROFESSIONAL DEVELOPMENT IN ENVIRONMENTAL EDUCATION

Professional development in environmental education should be:

1. enquiry-based
2. participatory and practice-based
3. critical
4. community-based
5. collaborative

RESOURCE 1

THE ENVIRONMENTAL EDUCATION AND COMPUTER CONFERENCE PROJECT: AN ILLUSTRATED COMMENTARY

The project illustrated here was coordinated by Deakin University, involved five coastal schools, and had three interactive characteristics:

- (i) environmental education work involving monitoring of water quality;
 - (ii) a computer conference as a forum for participating schools to interact with each other, sharing opinions, inquiries and results with Australian and overseas schools engaged in similar water quality work; and,
 - (iii) a participatory research approach on the part of the project coordinators, teachers and students.
-



**The ENVIRONMENTAL EDUCATION
and COMPUTER CONFERENCE project**

1. This project originally involved schools along the "westcoast" of Victoria: Lavers Hill, Apollo Bay, Lorne, St Joseph's, and Queenscliff. While each school enjoys proximity to a magnificent marine setting, their environmental education activities were initially concerned with freshwater quality. This case study reports on the activities of three of the five schools.



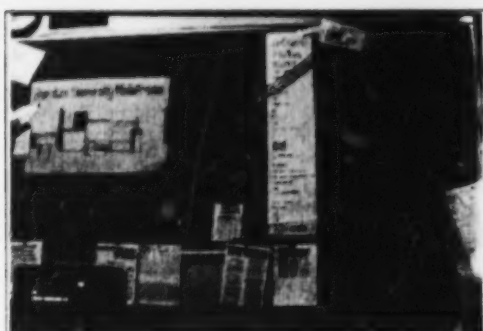
2. One school (St Joseph's College) identified three sites along the Barwon River in Geelong for their studies of water quality. The school borders the Barwon River, and there has been a history of pollution problems in the river. This is a photograph of one of the St Joseph's sites.

- Biochemical oxygen demand
- phosphates
- nitrates
- pH
- turbidity
- dissolved oxygen
- temperature change
- total solid
- fecal coliform

3. The school conducted tests of nine different parameters on the water in the Barwon River.



4. Students in different year levels were involved in the sample and analysis of the water. Here, some year 10 students receive preliminary instructions from their teacher prior to beginning sampling and testing.



5. One of the interesting features of this project was that different teachers found different "homes" for the environmental education work in their curriculum - for example, general science, technology studies, computing.



6. Older students were able to work more independently on their collection of water samples. This student is collecting invertebrate fauna for additional study. Students from St Joseph's and the other Australian schools keyed their data into an international computer conference that was housed at the University of Michigan under the coordination of Professor Bill Stapp.

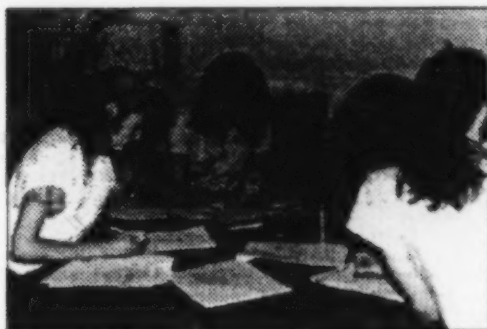


7. The international computer conference allowed each participating school to "talk" with any of the 100 or so other participating schools. The benefits of such interaction were that students at any school could compare their data on any parameter with those from schools in other locations.

Mar 09 88 07:31

914) Randy Raymond: Great response Mark!! Welcome to the conference Lorne. I am teacher at Science at Detroit Country Day School and I was in the first exciting to see how the students' attitudes change as well. I am very interested in learning more about the water supply of your area. What types of activities take place on the reservoir created for the water supply.

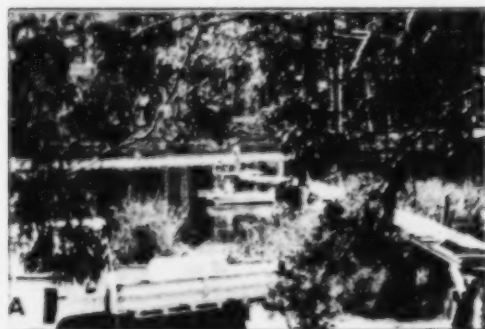
		Q value
dissolved oxygen	11.2 mg/l	98
total chlorine	1.0 mg/l	40
pH	6.5	72
BOD	0.1 ppm	30
temperature	8.0 C	90
total phosphorus	1.1 mg/l	89
nitrate	0.0 mg/l	65
turbidity	1.0 NTU	85
total solids	7.0 mg/l	70
Overall Water Quality Index		62.7



8. This is similar comparative data for the parameter of total solids. Other uses that students put the computer conference to included the exchange of geographical context information, exploration of alternative methods for data collection and analysis, establishment of new networks, as well as simply making new "electronic pen friend"
9. On the basis of computations involving all nine water quality parameters, students were able to come up with a single overall comparative index of water quality for their particular sample sites, and to place that index in an international context.
10. Overall, however, the proportion of total project time spent on the computer conference was disappointingly low - lower than the teachers expected. There were a number of technical problems associated with establishing and maintaining the computer link with overseas schools; and in a sense the more conventional approach of using the library rather than the computer conference as a resource remained dominant.
11. Another school, at the holiday resort town of Lorne, was interested in examining the water quality of the town's domestic water supply. At the beginning of the previous Christmas holidays, the townsfolk had been advised by the local water board to boil their drinking water. This implied warning came with no explanation.



12. After doing some early analysis of tap water throughout the town, the teacher and students decided to sample some of the water at its source - the town's reservoir. Here the teacher is briefing the students at the reservoir about what they are required to do.



13. On the day they arrived at the reservoir, a team from the local water board was also present, collecting water samples from a sampling station at the end of the pier.



14. The teacher and students began to walk out along the somewhat rickety pier to get to the sampling station. However, before they got much further than where they are in this photo they were ordered in a forceful and somewhat aggressive manner to remove themselves from the pier. Not wanting to be involved in a dangerous conflict, they wisely did so.



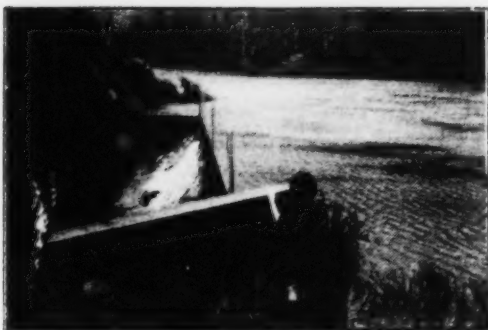
15. However, they were not easily deterred, and only two days later they revisited the reservoir with the intention of resuming their water sample collecting, hopefully without the intervention of the water board. However ..., the pier had been removed and burnt!



16. The significance of this was not lost on the students, who tended to perceive the demolition of the pier as an attempt by the apparently defensive water board to prevent ready access by the students to the sampling point. The political character of environmental education was emerging in concrete terms for these students ...



17. The students' determination to continue their study into this increasingly suspicious situation was not reduced, and they turned to collecting water samples from the more difficult locations of the water's edge ...



18. The reservoir spillway. It should be pointed out that the perception that the water board had destroyed the pier in order to prevent student access to the sample point was only surmise. The water board may well have acted with the morally loftier motive of concern for safety, - the pier was, as stated earlier, quite rickety.



19. Once obtained, the water samples were analysed either in the field or, as shown here, in the school science lab.



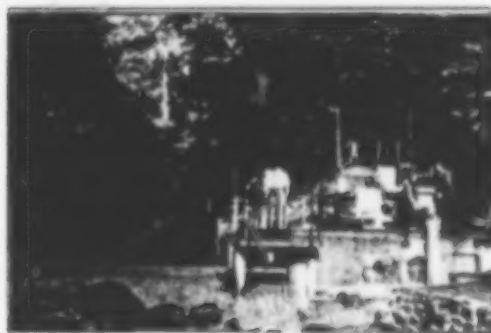
20. Data arising from analysis of water quality were then keyed in to the computer conference. The simple set up here was very workable: the computer was located in the teacher's preparation room adjoining the science lab, so the students could work away in a relatively quiet and secure setting.



21. Usually within two days, a number of responses to Australian student's entries were received from America and Germany. In this way, the computer conference served as an alternative source of advice and support to the more conventional one (the classroom teacher and the library). The computer conference acted as a larger, international classroom, placing students in the isolated Australian schools in direct contact with students elsewhere in the world. Thus the computer conference acted to expand the "student scientific community" available to students.



22. The third school being reported in this illustrated case study is Lavers Hill. This school is very isolated, located on a ridge in the Otway ranges, in the highest rainfall area in the State of Victoria.



23. Close to the school is a catchment area and pipeline providing water to areas east and west of the Otways. The revolving drum machinery shown here is driven by the flow of the water and filters out debris and biota (dead and alive) from the water.



24. Students again engaged in the collection and analysis of water samples. Here, students are measuring the change in temperature of samples taken in two different sites.



25. These students are conducting a test of dissolved oxygen. Since dissolved oxygen is essential for the maintenance of most life in bodies of water, the presence of high levels of dissolved oxygen is a positive sign and the absence of oxygen is a signal of severe pollution. The kit being used here is available commercially from Selby's for about \$120.



26. The test kits, like this dissolved oxygen kit, enable students to conduct proper tests of the parameter in question without the problems usually associated with accurate measurement of reagents. Reagents are pre-packaged in "powder pillows" that allow the testing to be done efficiently in the field.

READING 1

Source: Robottom, I. & Muhlebach, R. (1989) Expanding the scientific community in schools: A computer conference in science education, *Australian Science Teachers Journal*, 35 (1), 39-47.



Dr Ian Robottom is Senior Lecturer in the School of Education at Deakin University. He has research and teaching interests in science education and environmental education, as well as in participatory research as a form of professional development.



Ms Robyn Muhlebach is Tutor in the School of Education with responsibilities in science education and environmental education. She has several years' experience in primary and secondary science teaching and is currently also working as research assistant in this project.

ABSTRACT

This paper reports on a research project organised by Deakin University and involving eight schools in the Barwon South-western region. Each of the schools is conducting an environmental science program centring on systematic tests of water quality in their nearby water catchments, and using a computer conference to exchange and appraise information in collaboration with each other and with a number of overseas schools.

The project is adopting a research perspective in exploring the technical, teaching and curriculum issues arising as efforts are made to exploit the potential of the computer conference. Early opinions are that the conference is serving as a means of expanding the students' "community of scientific enquirers" in a way that is consistent with the role that research communities are thought to play in professional science.

INTRODUCTION

This paper describes a current research project of the School of Education at Deakin University in

which a number of isolated Victorian schools are studying their use of electronic mail and computer conferences as a means of improving their environmental science programs. The project originated from and is associated with a similar project in the USA organised by Dr William Stapp at the University of Michigan (Stapp & Mitchell, 1987). While the current project is structurally similar to and in fact makes use of the same database as the Michigan project, its focus is different. The main interest of the Michigan project is improvement of school water testing programs; the educational issues associated with the use of the computer conference are not engaged directly. The current project has as its main interest the teaching and curriculum issues that arise as existing computer resources are used in efforts to improve science education programs in schools. Thus the project has similarities of focus with a study in the United Kingdom of electronic mail and young people's writing (Somekh & Groundwater-Smith, 1987).

The following statements of aims indicate the nature of the current project.

- To enhance environmental science education in remote schools by linking them with an expanded "scientific community" of some 90 overseas schools engaged in an international program of scientific studies of water quality. The Australian schools already participating in the project are conducting a series of standard water quality tests, as well as investigating social and political aspects of the issue of local water quality. The international program is organised around the same standard tests in the schools in the USA and western Europe.
- To utilise schools' existing computer resources to establish a regional network and participate in an international computer-conference of geographically-disparate schools engaged in similar environmental / scientific investigations.
- To conduct research into educational issues associated with the use of computer-conferences in the development of environmental science education in isolated schools. The following kinds of objectives receive consideration in this project:
 - the enhancement of young people's scientific investigations by communicating with a community of student-scientists overseas;
 - to monitor the roles and responses of participating students, teachers and pupils to a technological innovation (the use of computer conferences in education) and develop understanding of the support required.
 - to study the nature of the international link.

This paper will provide a descriptive outline of the overall project, a case study account of the activities of one of the participating schools, and finally list some of the teaching and curriculum issues identified so far in the project.

PROJECT PARTICIPANTS

Schools

The schools involved in this project are (currently) Lavers Hill Consolidated School,

Apollo Bay Higher Elementary School, Lorne Higher Elementary School, St Josephs College, Queenscliff High School, Cobden Technical School, Timboon High School, and Warrnambool High School, with the last four schools "joining" most recently. The year levels involved range from Year 8 to Year 12 STC (Schools and Tertiary Entrance Certificate). These schools were approached for a number of reasons, including their relative isolation, interest in computer-based telecommunications, and concern about the issue of water quality in their area. Each of these schools possessed a micro-computer, and each possessed or agreed to purchase a modem, dedicated telephone line and appropriate software. Support for the project has also been forthcoming from the Ministry of Education through its Geelong, Colac and Warrnambool School Support Centres.

In addition to the Australian schools, some ninety overseas schools, largely in the United States and West Germany, are participating in the project. All participating schools are engaged in activities based upon tests of water quality (including tests of dissolved oxygen, fecal coliform, pH, biochemical oxygen demand, temperature, total phosphorus, nitrates, turbidity, total solids) which form the substance of the schools' environmental science programs.

Other participants

Deakin University provides the "gateway" to the overseas schools via its mainframe computer. The schools log-in to the Deakin mainframe and from there communicate via satellite to the University of Michigan, whose mainframe holds the actual database of the conference. This two-step process enables schools in any remote area in Australia to communicate directly about their environmental scientific studies with any of 90 overseas schools. The turnaround time for messages and replies is a day or two.

The computer-based conference is more than a database, however. The conference program (CONFER II) enables a range of communications: private messages to other individual participants, bulletin-board items for general access by all participants, and serial

responses to advertised items enable the computer-based communications to be responsive and interactive. Importantly, the computer-based conference has the potential to expand the accessible "community of enquirers" for participating schools: Students in isolated schools are able (to a greater extent than previously) to exercise such scientific skills as proffering hypotheses and appraising the hypotheses of others, noting and replicating the tests of others, and proffering and seeking solutions to methodological problems, as well as simply exchanging information of a technical kind—all in a way that involves/engages students and teachers in a range of scientific and educational settings.

In addition to acting as a "gateway", Deakin University attempted to provide a support structure to the Australian schools—for example we provided several schools with the latest field equipment for dissolved oxygen, nitrates, phosphates, and bacteriological testing. We also attempted to encourage collaborative record-keeping—participatory educational research into the teaching and curriculum issues as the teachers themselves experienced them. Some of the specific approaches to data collection used so far include:

- maintenance of personal professional diaries by teachers;
- maintenance of computer terminal log-books, in which all users make entries for each log-in;
- interviews of participants (teachers; pupils; principals ...);
- analysis of computer-conference discourse (messages; transmissions; responses; conference entries ...);
- observation (field notes and photography).

A CASE STUDY—LORNE HIGHER ELEMENTARY SCHOOL

To provide an insight into the kind of activities engaged in by participants in this project, we will consider the experiences of one isolated school. Lorne HES is a P-12 school located on the coastal edge of the Eastern Otway Ranges an hour's drive from Geelong. The students involved in the

project are in the school's Year 11 and 12 STC class. The school was approached with this project in mind for the following reasons:

- It is in an isolated setting with a small class size in environmental science, and it was felt that it would benefit from an increase in the "community of enquirers" that would result from participation in a computer conference of this type.
- There was already a high consciousness about the issue of water quality in the town. A number of recent newspaper articles point to the concern about the issue, and an official letter from the Lorne Water Board actually advised all residents in Lorne to boil their drinking water over the Christmas period.
- The school was interested in expanding its computer technology: It had already invested in hardware and software to support a library network involving Lavers Hill and Apollo Bay schools. Involvement in the water quality conference was seen as an opportunity to extend this aspect of the school's computing.

So far, the school's work in the project can be outlined as follows:

- classroom discussion/debate about water quality as an important issue in the town
- a survey of the Lorne community by students: this included interviewing residents, business groups, a local doctor and the Lorne Water Board.
- a questionnaire survey of residents—there was a 30% return.
- research into past newspapers, council minutes, correspondence ...

A result of these enquiries was confirmation that there exists a perceived problem of water quality in the township of Lorne, and that there seems to be a relationship with illness particularly during the summer season when there is an influx of tourists.

From here the students were introduced to (a) the idea and methodology of water quality testing, and (b) the computer conference, with the idea of organising their involvement in an international data base and community of enquirers.

The rear wall of the science classroom soon became the site of illustrations depicting the constituents in the project, showing the organisation of the telecommunications, and a world map showing the overseas schools with which contact became established. Some class sessions were spent in familiarising students with the water quality tests themselves, and several field trips were taken to the site of the Allenvale Dam, which is the storage facility for the Lorne township. On the first trip, all students participated, but thereafter, smaller groups carried out the field work while some students worked at the terminal back at school.

On an early trip, we were using a jetty to reach clear water for sampling when members of the Lorne Water Board approached us and quite aggressively ordered us off the jetty where they carried out their own sampling. On our return two days later, we were amazed to see that the Water Board had removed the jetty! This was taken by us as evidence of the political character of environmental issues — an instance of a party with a vested interest in the issue taking action to influence the attempts of other parties to gain information about the issue.

The outcome of the action of the Water Board was to make access to the dam more difficult. We were forced to attempt to collect water samples by using a jar at the end of a long stick, or from precarious positions on the spillway; neither was satisfactory. Some of the tests were carried out on site, and others were taken back to the school's science room for analysis. Other students worked at the terminal in the prep room next to the science room, engaging the international computer conference. Throughout the project, students used the computer conference in a variety of ways that will be discussed later in this paper.

Some Issues at Lorne

The following is a summary of some of the practical, teaching and curriculum issues that have arisen so far in the experiences at Lorne:

- a range of technical problems with software and hardware, especially the tendency for lines into the Deakin mainframe to be fully

occupied at the time students wish to log-in;

- the importance of having a room for housing the computer adjoining the science room, so that students can work with loose supervision while not threatening the security of the hardware and software;
- the need to be able to prepare text files ahead of time (that is, off-line preparation before logging in to the conference). The ability to log-in, send a prepared file and log-off efficiently is essential if the costs of the satellite communications are to be kept to a reasonable level;
- the different term dates of Australian and overseas schools need to be taken into account when planning a program of work that interacts with the school systems of other countries;
- there is a tendency for a division of labour to occur, in which girls are spending relatively more time at the terminal and boys are spending relatively more time in the field doing the tests;
- like any environmental program, there is the problem of transport to field sites — how is this done, where does the funding come from, and what is the effect on the timetable?
- there are obvious timetable problems associated with a program in which unpredictable field work and terminal usage is difficult to fit into the usual two-hour timetable slot;
- the program ran into several instances of cooperation and non-cooperation on the part of community groups (for example, an initially uncooperative Water Board which is now working in collaboration with the school);
- the variable confidence of the teachers with either or both of the water testing and the computer conference.

SOME MORE GENERAL ISSUES IN COMPUTER CONFERENCES IN SCIENCE EDUCATION

The intention in this section is to outline some issues that may have more general currency in

situations where attempts are made to employ computer conferences in environmental science.

1. **The value of engaging in similar scientific work in the different participating schools.** The same nine tests of water quality were used by all participating schools, enabling students using the computer conference to share a common substantive language, recognise similarities in problems and solutions, and generally have something relevant to offer in conference discourse.

2. **Enquiry teaching — the tension between teaching science as enquiry and conventional didactic teaching styles.** Attempts at teaching science as enquiry are frequently confounded by the status of the teacher in the classroom: the teacher is frequently perceived as an authority figure, and this interferes with efforts at encouraging students to engage in independent scientific enquiries. The teacher's perspective on a research question is frequently sought, and uncritically accepted, because students are in the habit of being directed (in a classroom managerial sense, at least) by teachers. How is the computer conference "treated" by students — as just another source of authoritative information to be accepted uncritically, or as an interactive community offering the capacity for the critical "testing" of propositions of various kinds? In brief, how does the availability and use of the computer conference affect the tension between teaching style and "science as enquiry"?

3. **The collaborative character of the computer conference.** Conventional approaches to enquiry science serve to represent science as an individualistic enterprise, where individual students are assessed on their (individual) ability to demonstrate certain scientific process-skills such as careful observation, ability to identify and control variables, ability to measure accurately. Programs in science education are similarly assessed on their ability to create the opportunity for students to exercise these skills. Using a computer conference as a working community of enquirers is essentially a collaborative endeavour. In what ways does it overcome the individualising influence of enquiry teaching?

4. **The conference as an expansion of the community of enquirers.** How is the computer conference being engaged by students — is it creating an empiricist view of science as portrayed by philosophers such as Karl Popper, or a more social view of science as perceived by the historian of science Thomas Kuhn. Both of these philosophers acknowledge a function of a scientific community. For Popper it is an "open society" whose criticism of proffered truth-claims confers some rigour and objectivity on the scientific process. For Kuhn it is a social structure whose very human element confers a necessary subjective element to the work of science. What view of science is being expressed by students making use of this computer conference-based scientific community? There are traces of both: the apparent interest in establishing early social links as if these were important in determining the significance of the substantive content/focus of the enquiries; and the use of the conference as a means of "testing" methodological steps, propositions, and interpretations. Certainly, several students used the computer conference to gain assistance from other students elsewhere with problems encountered in applying specific methods, and in interpreting specific results. In each case, immediate and useful responses were gained — responses that would not have been as immediately forthcoming from the internal resources of the classes in question. This is an especially important issue given the small class size of some rural schools.

5. **The project as "Science, Technology and Society" (STS).** Given the rising interest in "Science, Technology and Society" in Australia and elsewhere, it is important for science education-related developments to consider their relationship with the STS movement and other similar approaches like environmental education.

At one level, environmental education (for example) has much to offer the emerging "Science, Technology and Society" orientation in science education. Environmental education explicitly adopts a broader range of disciplined thinking than science, and specifically recognises and seeks to explore the intrusion of personal, political and social values into environmental

decision-making. It is well placed to explore the interactions of science and society.

However, a project like this one can make a contribution at another level. One of the issues that advocates of a "Science, Technology and Society" orientation need to address is whether STS is about teaching the social applications of science content and products (an instrumental approach which leaves unaddressed the ways in which the scientific community itself is socially-structured), or about the ways that social, community, and environmental imperatives shape what is seen as important problems for research, the nature of acceptable methodologies, and what is to count as compelling evidence (that is, a more interactive approach concerned with examining the social structure of the scientific community).

The current project, by virtue of its necessary involvement of students in various forms of interaction with a substantial community of scientific enquirers, provides teachers and students with opportunities to explore and test the ways in which such a community mediates the scientific work of its participants.

6. **Kinds of use of the computer conference.** As mentioned above, students were able to interact with the computer conference in a range of ways. Some of these forms of interaction are cited below, with examples of conference dialogue drawn from the most frequent contributors:

** Initial introductions of new users to other users.* Teachers and students have keyed in some statements describing themselves, their school and its setting for the benefit of other conference users:

Item 137: Greetings from St Josephs College in Geelong Australia. Geelong is located in the state of Victoria. The major city in this state is Melbourne. Geelong is the second largest city in the state. It is situated along the banks of the Barwon River. In its upper reaches, it supplies Geelong with its drinking water. We will be monitoring the Barwon at three locations. We hope we can contribute to the project.

** Personal bonds between users.* Users appear to

feel the necessity to establish and maintain an almost personal bond with peers using the conference — a bond that is in many cases independent of the substantive work of the project (in this case, water quality testing).

Item 140: G'day from some of the year 10 lads at St Josephs College, Geelong, Downunder. Say hello to Hoges, put another shrimp on the barbie. What's the weather like in USA? It's 25 degrees Celsius here in Os.

140:1 Jim Jarrard: Can't say much about USA weather, but here in Northern Germany it's running about 14 degrees Celsius. The drive from Germany (Wiesbaden) to the north (Bremen) shows remarkable differences in the foliage development of spring. Vegetation in south is much fuller while some 550 kms north the leaves are just appearing. Can't burn the Weber on the balcony here in Deutschland because of local fire regulations. I attribute it to local paranoia. What'd the queen think of your birthday party?

** Exchange of geographical context information.* From a fairly freewheeling description of the school and its context, users seemed to move to a more considered and detailed/specific description of the water catchment area that their school is located in, and an outline of the water quality issue as they perceived it at the time.

Item 108:1 Randy Raymond to Lorne:
Great to receive such a detailed reply. Our school is located in the suburban area of Metropolitan Detroit. We like to think that we are somewhat in the "country" but this is not really the case. Detroit and its surrounding cities have a lot of different water access available. In some areas the lakes, rivers and streams are clean. In other more industrial and heavy residential areas we have considerable problems with sewage pollution and industrial pollution. We will be sending a videotape after the 16th of April to you...

** Enhancing other aspects of the curriculum.* In several cases, the conference was used as a forum for establishing and maintaining useful links with individual schools with a view to serious collaborative exploration of an idea completely

separate from the water quality enterprise.

Item 116: Lorne (Aust): Lorne to Detroit.
Reply to Randy Raymond: Do you want us to report on the waxing or the waning of the moon, and what sort of observations would you like us to make? Secondly, can it be done in May as we are on holidays over the Easter period.

* *Establishing new networks and contacts between teachers and students.*

Item 113: Bill Campbell (Aust): A number of elementary schools here are interested in this project. Are any schools currently involved in this conference at this level and if so what tests, etc; are suitable?

113:1 Randy Raymond: Bill, what is the age of elementary school children? I currently work with a group of 6th grade students in addition to high school students. The 6th graders are between 11 and 12 years old. I have found that they are very capable of doing what is asked as well as understanding the data that they collect.

* *Solving methodological problems.* Students and teachers alike used the conference as a source of information to clarify early problems and uncertainties about how to do the tests. These problems were in some instances concerned with procedural questions, and in some instances ambiguity of written instructions. In some cases this led to revision of the manual being used to support the enquiries.

Item 153: St Josephs College: Problems with the Dissolved Oxygen Test.

Recently, we started to carry out the dissolved oxygen test using the instructions given in the Field Manual. However, we found that reagent Pillow 2 in our Hach kit did not contain alkaline iodide azide powder as suggested in the manual. We decided to follow the instructions given with the kit. These omit the use of starch and consequently our test sample was not coloured blue prior to the addition of the PAO reagent. The change from yellow to colourless was still easy to detect. Has anyone else noticed this discrepancy between the manual and the kit? Do we have an old kit? For

anyone who is interested, we obtained a DO value of we hope to give the results of the other tests in a week or so. Somehow the last couple of sentences were corrupted. The DO value was 11mg/L. Regards from St Joey's in Geelong, Australia.

* *Accessing the data base.* One of the main purposes of linking the water quality work with the computer conference was to enable students to exchange (contribute to, and withdraw) information of a technical kind (that is, figures of dissolved oxygen, temperature, phosphates, etc.) with other students carrying out similar kinds of environmental science enquiries

Item 168: St Josephs College, Australia.

Quality Data from St Josephs College, Geelong, Australia

[three sets of results were provided in this item; only one set is reproduced here.]

Location: Barwon River, Geelong, site 3.

Date: 16 May 1988

Time: noon

Weather: air temp 16 °C; overcast with rain.

		Q-value
diss O ₂ :	112% sat. 11 mg/L	98
fecal coliform:	100 colonies/100 mL	45
pH:	6.5	75
B.O.D.	10 ppm	33
temperature	-0.5 °C change	92
tot. phosphorus	1.1 mg/L	39
nitrate	0.55mg/L	98
turbidity	1 m	33
total solids	770mg/L	20

Overall Water Quality Index: 62.7

168:1 Clancy Wolf: I see you have listed three sites. Could you please let us know which is upstream of the rest so we have a bit of a reference? Thanks.

168:2 Deakin Students: Bill and Coral, it looks like you have been busy and obtained some interesting results. It may be helpful to local students if you can give an idea of the location of your 3 sites. Robyn Muhlebach.

168:3 Matthew Flinders Girls High School:

Bill and Coral, I'm at Matthew Flinders GHS and we might be sampling from the Barwon also. It would help to know the exact location of your sampling. Can you let me know? Thanks, Dan.

168:4 St Josephs College, Australia: In response to the queries concerning the three sites we sampled: Site 1 is upstream from site 2, which in turn is upstream from site 3. For locals, site 1 is approximately one kilometre upstream from the confluence of the Barwon River with the Moorabool River. Site 2 is adjacent to the Queens Bridge, about one kilometre down from the junction of the two rivers. The last site is adjacent to Princes Bridge (intersection of Shannon Avenue and Barrabool Road) and is near two large storm drain inlet pipes. It is approximately two kilometres down stream from site 2. We hope that all makes sense. All the best, St Joey's.

* *Interpretation of data.* The conference was used as a forum for validating certain results and for gaining assistance in interpreting the significance of results.

Item 154: St Josephs College: high Total Solids readings. In some tests we carried out the other day, we obtained values for Total Solids of 1960 mg/L and 1700 mg/L. These are considerably higher than those obtained in other parts of the world. Has any school had values this high? All the best from Geelong, Australia.

154:1 Randy Raymond: The readings you obtained for total solids indicate that your river must have a great deal of sediment moving in the system. What is the turbidity of the water like? Do you have a great deal of erosion into the system? Has there been a recent raion or series of storms that could have affected the results of your testing? Generally, the tests that have been conducted in the Rouge River watershed have been done during periods when not much rain has occurred. However, I am certain that if samples were taken after a series of storms or a single large rain that you would find much higher results for total solids in our samples as well.

154:2 Lorne, Australia: We have values as high as 700ppm for our major water supply dam. We also tested the Yarra River on an excursion and found it to have a TDS of 4500ppm. High values seem to be normal for this part of the world.

* *Classroom process considerations.* There were some instances where teachers sought assistance with issues concerned with the actual teaching of the water quality environmental science program and its associated computer work. One of these issues concerned emerging gender roles in the conduct of project work.

CONCLUSION

Although this project has been operating for some nine months now, it is still at an early stage. The project is only beginning to address issues of the kind listed above.

The task of developing expertise in computer conferencing in environmental science is, it appears, necessarily a protracted one. It is also true that the process of participatory enquiry (practising teachers engaging in educational enquiry into their own teaching practices) is problematic. The early difficulties associated with setting up the hardware and gaining control over the conference program, as well as the financial demands are now understood to a greater extent. The participating schools exchange a Newsletter in which "solutions" to particular practical problems are exchanged, and this is one medium by which developing common wisdom about the project is shared. At a review workshop at the Colac School Support Centre in late October 1988, teachers from the eight schools agreed on the benefits of the computer conference for improving science education and determined to continue their efforts in the project in 1989.

Note:

The research reported here was supported by an internal grant from the Research and Graduate Studies Committee of the School of Education at Deakin University. The Victorian Ministry of Education also contributed funding support directly to the participating schools to assist their activities in this project.

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READING 2

FIVE PRINCIPLES FOR PROFESSIONAL DEVELOPMENT IN ENVIRONMENTAL EDUCATION

Source: Robottom, I. (1987) The dual challenge for professional development in environmental education, in *Environmental Education - Past, Present and Future. Proceedings of the Third National Environmental Education Seminar and Workshops*. Australian Government Publishing Service, Canberra, 80-82.

1. Professional development in environmental education should be enquiry based.

Professional development activities in environmental education should encourage participants at all levels to adopt a research stance to their own environmental education practices. Current practices in environmental education (teaching, curriculum development, inservice activities, teacher education activities, institutional organisation ...) should be regarded as problematic - as having the potential for improvement through participant research.

2. Professional development in environmental education should be participatory and practice-based.

Environmental education practices are shaped (guided or constrained) by the theories of practitioners themselves, and by the theories of others built into the structures and relationships of the institutions within which practitioners work. Environmental education problems are matters concerning the practices of individuals and groups: they occur when there are gaps between what practitioners think they are doing and what they are actually doing (these are problems of "false consciousness"); and they occur when there are gaps between what they want to do and what they are actually able to do in their particular setting (these are problems of "institutional pressure"). In either case, it is essential that the practitioner be directly involved in addressing these problems, because what is to count as a "solution" will only become clear through a process of working through the relationship of theory and practice. Professional

development courses consisting solely in prior "training in the disciplines" conducted outside the work contexts of practitioners are of limited help in resolving these practical problems. Approaches to professional development that impose a division of labour between "practitioners" and "researchers" should be abandoned.

3. Professional development in environmental education should be critical.

Professional development in environmental education should entail a critique of the environmental and educational values and assumptions that inform existing environmental education policies, activities and organisational relationships. It is through processes of enlightenment about the values informing and justifying policies, activities and organisational relationships that change in these registers is made possible as practitioners come to an understanding of the field through their critical enquiries and develop their own theories about environment and education.

4. Professional development in environmental education should be community-based.

Environmental education problems are doubly idiosyncratic: the environmental issues that form the substance of environmental education work are usually specific in terms of time and space (this is simply to say that environmental conditions in different parts of the world are different); and educational problems are rarely susceptible to universal solutions (this is to say that the ecology of classrooms differs from classroom to classroom).

5. Professional development in environmental education should be collaborative.

There are two reasons for collaborative work in professional development in environmental education. Firstly, recognition of instances of false consciousness or institutional pressure often requires the assistance of colleagues working in similar circumstances (several heads are better than one). And secondly, many of the forces acting against improvement in environmental education are political in character, and collective action is usually more productive than individual efforts in the context of political struggles. (Examples of the political character of the forces shaping environ-

mental education are: the tendency of schools (and governments) to favour a "safe" form of environmental education like the teaching of basic ecological principles rather than the investigation of controversial local environmental issues; the tendency of textbook agents and educational consultant to favour the teaching of substantive content (information about the environment) rather than to encourage a critical, enquiry-based form of environmental education - because to do otherwise would be to threaten the relevance of their own expertise; the struggle for resources engaged in by interdisciplinary subject-based curriculum.).

COMMUNITY ACTION *for* SUSTAINABLE DEVELOPMENT

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INTRODUCTION

This workshop provides an introduction to the work of Australian citizens engaged in community action for sustainable development and global education. Informed and active citizens bring together knowledge and practice in collaborative action. As such, this workshop provides participants with an opportunity to consider what Australian teachers might teach about community action, sustainable development and global education.

The workshop shows participants some of the ways in which Australians have taken on the role of global citizens in full cognisance of the interdependence of the peoples and countries of the world, and provides an opportunity for them to consider what Australians can do about issues of sustainable development and global learning.

The workshop is suited for use as a component of an education studies course addressing issues of social justice, or as an introduction to education for active citizenship and development education in curriculum and teaching studies courses.

OUTCOMES

The activities in this workshop will enable participants to develop:

- an understanding of the nature and scope of educating citizens for community action, sustainable development and global education;
- an understanding of the significance of these areas for their teaching;
- skills to evaluate education activities in this area; and
- the ability to plan themes and activities which articulate environmental and development education relevant to their areas of teaching.



WORKSHOP OUTLINE

The workshop consists of six activities organised around:

- three key concepts, namely, the nature and practice of community action, sustainable development and global education;
- an examination of the forms community action for a just world takes;
- key questions such as:
 - What can Australian citizens do to contribute to community action for sustainable development and global education?
 - What can Australian teachers do?
 - What do Australian participants need to learn?
- participation in small group work, games, mini-lectures, debriefing activities and, time permitting, a guest lecture; and
- a review and consolidation of key concepts and themes.

1. Warm-up Activity and Workshop Overview

2. Introductory Mini-lecture on Education for Informed and Active Citizens

3. Mini-lecture and Group Activities on Responsible Travel

- Group activities include:
 - "Cardgame"
 - "Diamond Ranking"
 - "Brantub"
 - "Flowcart"
- This activity concludes with group reports and a mini-lecture on guidelines for responsible travel.

4. Case Studies of Global Citizen Actions

- Small group activities are used to analyse four case studies
 - Community action for fair trade
 - Ethical investment
 - People-to-people projects
 - Human rights
- Small group reports and whole group discussion conclude these case studies.

5. Debriefing and Evaluation

6. An Extension/Optional Activity may include a guest speaker/interview or further research

MATERIALS REQUIRED

OVERHEAD TRANSPARENCY MASTERS

OHT 1: Workshop Overview

OHT 2: Ethical Guide to Responsible Travel

RESOURCES

- Resource 1: Tourism can damage the physical environment
- Resource 2: Tourism can have a major impact on indigenous people
- Resource 3: Tourism has a drastic effect on women and children
- Resource 4: Community action for fair trade
- Resource 5: Ethical investment
- Resource 6: People-to-people projects: Tackling the causes of poverty
- Resource 7: Amnesty International: Working for human rights - A case study

READINGS

- Reading 1: Education for Informed and Active Citizenship
- Reading 2: Ethical Guide to Responsible Travel
- Reading 3: Active Citizens Working for Human Rights

ADDITIONAL READING

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ACKNOWLEDGMENTS

I wish to acknowledge the approval of Community Aid Abroad and Amnesty International Australia to use a selection of their information as the basis for the material presented in this Workshop Module. I also appreciate the contribution made by Gerrie Crouch to typing draft text for inclusion in this Workshop Module. Further, I am grateful to Dr. John Fien for his support, encouragement and editorial assistance which has helped to see this workshop module through to its completion.



ACTIVITIES

1. INTRODUCTION TO THE WORKSHOP

A. Warm-up Activity

- Ask participants to write and discuss their explanations of the following concepts:
 - active citizenship
 - community action
 - sustainable development
 - global education
- Ask participants to write and discuss their knowledge of the following organisations:
 - Community Aid Abroad/Freedom From Hunger
 - Amnesty International

B. Workshop Overview

Display OHT 1 and summarise major stages and tasks involved in the workshop.

2. INTRODUCTORY MINI-LECTURE: EDUCATION FOR INFORMED AND ACTIVE CITIZENSHIP

Use the information in Facilitator's Reading 1 to present a mini-lecture on the importance of education for informed and active citizenship. Points to cover include:

- Recent developments to reconstruct the study of citizenship
- Definition
- Focus on active citizenship not knowledge alone
- Socially-critical objectives for citizenship education
- Social movements, citizenship education and active citizenship
- Australian and global examples of community groups.

3. ETHICAL GUIDE TO RESPONSIBLE TRAVEL

This section of the workshop is based upon an introductory mini-lecture, a series of group activities and a culminating activity (whole group reporting and whole group discussion).

A. Mini-lecture or Discussion

Use the ideas in Facilitator Reading 2 as the basis for a mini-lecture/whole group discussion on the benefits and costs of tourism. Use OHT 2 as a guide

B. Small Group Activities

- At this point divide participants into four groups, and have each group undertake one of the following activities:
 - Group A: Card game
 - Group B: Diamond ranking (Resource 1)
 - Group C: Brantub (Resource 2)
 - Group D: Flowchart (Resource 3)

- The instructions and resources each group needs are outlined below. Note that the "statement boxes" on Resources 1, 2 and 3 will need to be cut up and pasted on card in advance. The instruction sheets could be distributed to group leaders in advance of the workshop to enable them to prepare for the group activities.

Small Group A: Ethical guide to responsible travel: Card game

Group leader's instructions: Supply each participant with four slips of paper on each is written the following statement:

What we as active Australian citizens could do to be ensure responsible travel is to ...

- On each slip participants write their ideas which would complete this statement.
- Once participants have completed the four endings to the given sentence,
 - the slips of paper with the statements on them are collected, shuffled like cards and three "cards" are dealt to each group member;
 - the remaining "cards" are placed face down on the table.
- Each person in the groups looks at her/his "hand", and puts onto the "pool" of cards in the centre of the table those statements which they themselves wrote plus any statements with which they disagree.
- In turn they take from the "pool" of cards on the table other statements.
- This process continues for three to four rounds, discarding and picking up "cards" until they have a "hand" with which they are reasonably satisfied.
- At the end of this stage of the card game, each participants should have the best "hand" they can get, in so far as it is one each person finds most agreement with the comments written on the slips of paper.
- Each person then reads the comments on the cards in her/his "hand" and explains why they chose these particular cards.
- A summary of the various actions suggested for Australian citizens could be prepared on the blackboard, OHT or butcher's paper for a group report.
- Group leaders report their findings back to the whole class for general discussion.
- Discussion of the actions proposed in terms of initial expectations for action might focus on:
 - the range of potential actions,
 - the reasons for and against particular actions, and
 - the commitment to act or not.
- As a follow-up activity participants could research other examples of active Australian citizens addressing issues of responsible tourism in other countries.

Preparation required:

- Four slips of paper per participant

Small Group B: Ethical guide to responsible travel: Diamond ranking activity

Group leader's instructions:

- The "diamond ranking technique" provides a non-threatening and engaging way to clarify and alert participants to key concepts and issues in teaching and learning about sustainable development, global education and active global citizenship from different perspectives.
- "Diamond ranking" is an activity in which small groups rank nine statements according to the general criterion of their significance, importance or interest, in this case for responsible travel.
- The pairs or small groups should decide among themselves what is meant by "importance", "significance" or "interests," thereby enabling them to make a relevant and valuable contribution to the discussion.
- Skills used and developed in this activity include discussion, negotiation of meanings and consensus building.
- Sets of nine titled or numbered statements should be selected from those given on the Resource 1:
 - each set of statements should be cut up and placed in an envelope;
 - pairs are then given an envelope containing the nine statements; and
 - participants are asked to rank the statements in "diamond" formation:



- The most "significant," "important" or "interesting" statement is placed at the top of the diamond:
 - the next two are placed in second equal position;
 - the three across the centre are fourth equal, while the next two are seventh equal; and
 - the statement placed at the bottom of the diamond is the one considered by the pair to be the least significant, important or interesting.
- When pairs have completed their task, they form into sixes, and
 - each pair explains and justifies its ranking to the other two pairs;
 - the six then try to negotiate a consensus ranking for the group as a whole.
- Plenary reporting back and discussion should then follow:
 - both consensus and disagreements about the rank ordering of the statements should be discussed.

Small Group C: Ethical guide to responsible travel: Brantub activity

Group leader's instructions:

- The "brantub activity" provides a lively way of introducing information about, and major issues involved in making judgements, in this case about the ethics of responsible travel.
- This activity encourages a sharing of views among group members and gives individuals the time and space in which to reassess, adjust and develop their own ideas in the light of what they have read and what their peers have said.
- The statements given on Resource 5 provide a range of suggestions relating to concerns about ethical travel:
 - these statements could be photocopied onto separate sheets or cards;
 - these cards are then put into a "brantub" and thoroughly mixed;
 - participants are then invited, one by one, to come to the "brantub", to pick out a statement and read it silently.
- After each person has read his/her statement,
 - participants form "buzz groups" of two or three people, and
 - discuss the meanings and implications of the statements and whether or not they concur with the points made.
- New "buzz groups" are formed after each statement has been discussed so participants have an opportunity to discuss these issues with as many of their peers as possible about the different concerns associated with investment.
- A whole group plenary discussion should follow.

Small Group D: Working for change: Flowchart exercise

Group leader's instructions:

- The "flowchart exercise" provides an interesting and engaging way to introduce the range of work involved in securing sustainable development and global education. It encourages discussion and consideration of different views, some of which may not otherwise be heard, and it can help clarify the practices which participants value.
- Working in small groups participants are asked to produce a flowchart or graphical representation of a development plan by interrelating a selection of good practices for responsible travel. A flowchart, rather than a linear sequence, allows for greater imagination in exploring relationships between aspects of working for change. In trying to achieve agreement over the construction of the flowchart, participants will need to accommodate differing views, although where consensus is not achieved, alternative possibilities should be represented on the chart and discussed.
- Each group has a set of statements (see Resource 3) outlining good practices for responsible travel on sheets of paper which they can arrange in any kind of pattern, cluster, sequence or flowchart they wish.
 - When a pattern has been agreed upon, the statements on the small sheets of paper should be glued to a large sheet of "butcher's paper."
 - Lines, arrows, pictures and comments should be added where appropriate.
 - Participants can adapt or add to the good practices with suggestions of their own.

- When finished, groups come together as a whole in order to explain their flowcharts and to report on the main points of discussion

Mini-lecture: Community action for responsible travel

This is the conclusion to the section on active citizenship as an ethical or responsible traveller.

- Ask each of the four groups to report to the whole group (displaying any material they produced) on their individual workshops. Also ask for comments on the type of learning experience used in the group activity.
- Use the information in Facilitator Reading 3 to lead a group discussion on:
 - Personal actions- using the Community Aid Abroad's Our World Travel case study (exploring how personal action can relate to or be a part of collective citizen action); and
 - Community action - based on debt reduction and anti-sex tourism campaigns

4. GLOBAL CITIZEN ACTION

Participants work in small groups to make case studies of three examples of global citizen action.

- Form three small groups, and give members of each group a copy of a case study based on one of the following Resources ensuring that each member of the group gets a copy of the same one:
 - Group A: Resource 8 - Community Action for Fair Trade
 - Group B: Resource 9 - Education for Ethical Investments
 - Group C: Resource 10 - People working for change
 - Group D: Resource 11 - Amnesty International

Depending on total group size, several working groups may be formed for each case study.

- Participants read their resource sheets - perhaps even over a break - or the sheets could have been given out a day or two in advance for pre-reading.
- Each group discusses its case study, focussing on the lessons they learn from it about:
 - active citizenship;
 - community action;
 - sustainable development; and
 - global education.

Specifically, they should consider the following questions, recording answers to them for subsequent reporting:

- What skills, competencies and knowledge are associated with the work of active citizens reported in the Reading?
- What are the moral, political, social and economic reasons underlying the forms of community action reported in the Reading?
- How is the community action project being undertaken by these active citizens contributing to sustainable development?

- What knowledge and competencies might be taught participants as part of a program in global education?
- Following the small group discussions, a group leader should report to the whole group on the participants' deliberations.

5. DEBRIEFING AND EVALUATION

- Review main points raised in this workshop, referring to points on OHT 1.
- Ask participants to prepare a fax for sending to the Federal Government, addressing issues and advocating action which they as citizens and educators see as being important based on the work undertaken during the workshop.

6. EXTENSION/OPTIONAL ACTIVITY

- Invite a member of Amnesty International or Community Aid Abroad to speak to participants about the work of active citizens, community action, sustainable development and global education.
- As a follow-up to this workshop have participants research or study Australian groups and organisations working for social justice throughout the world. Have the participants focus on the social competencies needed and used by active citizens working in these groups. Refer to the *Amnesty International Handbook* (1992) for further details.



OHT 1

WORKSHOP OVERVIEW

- Introduction to concepts
- Education for informed and active citizenship
- Responsible travel
- Case studies of global citizen actions
- Debriefing and evaluation

OHT 2

ETHICAL GUIDE TO RESPONSIBLE TRAVEL

What are the benefits and costs of tourism?

Tourism can damage the physical environment

Tourism can have a major impact on indigenous people

Sex tourism has a major impact on women and children

Community action for responsible travel

1. Personal travel
2. Community action



RESOURCE 1

TOURISM CAN DAMAGE THE PHYSICAL ENVIRONMENT: AS A TOURIST, WHAT CAN I DO?

If the facility exists, travellers might stay with local people for part, or all, of their holiday. This will reduce the need for expensive, resource-intensive hotels and other facilities, which can damage the environment.

Travellers should drink and eat local food where practical; ask a local person whether it is satisfactory from a health point of view. This will create less litter from packaging, will save money in importing costs and will encourage local self-sufficiency in food production, for the country concerned.

Tourist should consider staying in one place. This will save precious resources such as petrol and oil, and will reduce pollution. It will also be more relaxing and after all, it is impossible to see everything.

Travellers should walk, cycle or use local buses if they want to look around.

Tourists should not take four wheel drive tours unless they absolutely have to: remember that these vehicles do enormous damage to the top-soil.

Travellers should not hunt animals, or buy product souvenirs, but take photographs instead.

Trekkers should try to take only biodegradable items with them on their travels and carry out any rubbish. They should bury it only if they have to and make sure that this is well away from any water sources.

Trekkers should take their own fuel stove (gas, kerosene etc.) rather than expect to use precious trees for cooking. (While this does necessitate the importing of oil-based products in some cases, the ecological impact is still less than using firewood.) This may also mean taking a jacket for warmth at night.

If there is not a public toilet in the vicinity, trekkers should bury faeces and/or urinate away from water sources and people's villages.

RESOURCE 2

TOURISM CAN HAVE A MAJOR IMPACT ON INDIGENOUS PEOPLE. AS A TOURIST, WHAT CAN I DO?

Before you leave for your holiday try to learn as much as you can about the customs and history (especially local versions) of the people whom you will be visiting.

Remember that other people have different concepts of time and ways of looking at the world.

Try to learn some of the language of the country in which you will be travelling.

Dress modestly, especially in and around temples, mosques, churches and shrines. Resist the temptation to bathe, or sunbathe naked or near-naked, if it is forbidden by local law, or if it makes local people uncomfortable.

When you arrive, be sensitive to local customs. Listen, observe, learn and treat people with respect.

Respect local religious customs, and don't make promises that you can't keep.

Ask permission before taking photographs of people (in some countries it is illegal anyway). Try using a local guide to help show you the best areas and pay if asked to do so. Respect should dictate your choice of shots.

Avoid drugs, including alcohol, if you know that it will cause offence.

Be particularly aware of the impact of taking photographs. Telephoto lens are not a solution to capturing images of individuals - they too can offend.

Don't expect any special privileges - you are one of many tourists who visit.

If local people want to look through your camera, let them. They may want to take a picture of you. Should they want a copy of your photograph, do send it.

Be aware that any sexual relationships you form there are almost always between that of the powerful (the one with the money) and the powerless (the desperately poor).

Do not take pictures of people through the window of a bus or car. Wouldn't you feel like you were in a human zoo if this were happening to you?

Be careful 'bargaining' - your bargain is only possible because of the low wages paid to the maker.

Eat local food and drink the local drinks to share the experience with your hosts.



RESOURCE 3

TOURISM HAS A DRASTIC EFFECT ON WOMEN AND CHILDREN. AS A TOURIST, WHAT CAN I DO?

Tourism has a drastic effect on women and children:

As a tourist, what can I do?

Talk to the local people, for example the room service helper, the store keeper, the bus driver, the guest house owner, farmers and fishers, about their country.

In your relationships, respect the rights of women, men and children.

Look around and analyse what you see. Try to investigate the social and economic forces which are shaping the destiny of the place that you are visiting.

Be careful in your contacts with children and remember that they can be vulnerable, despite your good intentions.

Think about the impact of tourism on the community that you are visiting.

If it offends local customs, do not sunbathe topless or totally naked where there are children around.

Try to imagine how the country that you are visiting might meet its basic needs and become self-reliant.

Consider your own health. In 1989 there were over 10,000 HIV-positive carriers in Thailand, and the great majority of these were active in the prostitution scene.

Talk to fellow travellers about their experience of the country - do not just swap hotel and restaurant tips.

Find out about their issues such as population, health care and the environment, by reading *The New Internationalist* and similar literature.

Support legal action to curtail sex tourism and the sexual abuse of children by Australian tourists.



RESOURCE 4

COMMUNITY ACTION FOR FAIR TRADE

Community Aid Abroad (CAA) is an example of active citizens engaging in organised, collaborative community action for sustainable development and global education. CAA is an Australian-based secular organisation which is not party-political. CAA is, however, socially aware and its aim is to both improve the living conditions of people and also to support the poorest of the poor in their struggle to overcome poverty and associated injustices. Many CAA projects assist the poor in forming co-operatives and strengthening village communities. This will ensure they have access to resources that previously had been denied them. For instance, a village irrigation scheme may only benefit the wealthy landowners unless the poorest villagers have the power to determine where it goes and who gets the water. In addition to assisting victims of major disasters overseas, CAA attacks the causes of poverty on two main fronts:

- the support of self-help community-based projects in developing countries and amongst Australian Aboriginal communities; and
- educating Australians about the causes of poverty and inequality.

Supporting self-help community projects

CAA funds projects that are initiated and carried out by the people who directly benefit from them. CAA believes people are motivated towards change when they control that change. CAA supports a broad range of projects including health, training, production, education, employment, agricultural, literacy and motivational projects. Some are integrated community development projects encompassing many of these areas. Some focus specifically on the position of women. Care is taken to ensure that projects are in harmony with the local environment and culture.

Raising socially significant issues

As well as encouraging discussion in the Australian media on aid issues, CAA conducts a variety of interesting education activities (Waddell, 1988). These include:

- conferences and seminars on CAA activities and other matters of public concern;
- in-service programs for primary and secondary teachers;
- the provision of written and audio-visual materials for sale or hire;
- speakers and presentations to interested groups, organisations and schools;
- Youth Programs run by and for young people, and
- study tours to some of the areas where CAA is involved which give first hand experience of projects in action.

Organised collaborative citizen action

Community Aid Abroad focuses its work on attacking the causes of poverty through projects at the village level. But this is only one side of the coin. Experience has taught CAA that many of the things that keep people poor are rooted here in the attitudes and actions of Australian society, and similarly overdeveloped countries. If no action is taken to address structural issues, such as international monetary policies, the excellent work done at the village level will be undermined by the debt crisis at the national level. CAA is well-placed to play a significant role in the elimination of these causes. The following are examples of CAA's recent campaigns.

Infant formula campaign

The international campaign to stop the unethical marketing of baby milk achieved a major success in 1981 when the World Health Assembly adopted an appropriate marketing code. There is still room for improvement, and vigilance is essential. But the fact remains that the campaign has saved thousands of lives.

Debt campaign

Every year, poor nations are crippled by debt repayments that far exceed the flow of aid and investment money from the rich world. Between 1982 and 1987, for example, the net result was the Third World "aided" the world's rich nations by US\$220 billion. Interna-

tional campaigns have been an important factor in gaining some concessions from lenders. Some of the poorest African countries, for example, now have the option of writing off one-third of their debts, reducing interest rates or extending the term of their loans. This is a start, but much more needs to be done.

Dangerous drugs campaign

An international campaign by the Medical Lobby for Appropriate Marketing has led to the withdrawal or modification of 12 drugs from the market. Each year millions of poor people spend their money on dangerous or useless drugs. In the Philippines, a dangerous antibiotic combination of Chloramphenicol/ Streptomycin, used to combat diarrhoea, was the top-selling drug. Following a campaign, it has been withdrawn from sale. A light beer tonic "for the relief of stress" which contained arsenic and strychnine has also been withdrawn.

Becoming an informed and active citizen

CAA's project work is immensely important to hundreds of thousands of people. But the actions of governments and large companies can affect millions. So CAA invites Australian citizens to join Campaign Partners, an initiative designed to complement CAA's overseas project work. Campaign Partners is a network of active citizens who want to support the struggle against such major causes of poverty as environmental degradation, militarism, debt and unfair trade. Campaign Partners concentrates its efforts in this area. To help spearhead campaigns for change, Community Aid Abroad has set up a Public Policy Unit, including a lobbyist and a researcher. To pay for this, CAA cannot infringe on funds intended for its project partners. Furthermore, the Australian Government does not grant tax deductibility for donations to this work, something which informed and active citizens might lobby the Federal Government to do. CAA is asking Australian citizens to contribute directly to this vital work by joining Campaign Partners and giving a donation every three months.

By joining Campaign Partners, citizens are recognising the need for direct community action in Australia. Citizens can make an individual donation and/or join one of CAA's community Groups. Teachers interested in joining one of these groups, or in forming a group in their area, workplace or school, should contact the local State Office of Community Aid Abroad.

The CAA community action groups develop their own interests and priorities and decide which projects they will support. Some are principally involved in fund-raising by organising dinners, street stalls, film nights, or wine bottling. Others are interested in raising their own awareness of environmental and development issues, and so conduct discussion nights and public meetings as well as becoming involved in education and community action campaigns. For example, some community action groups supported the campaign to prevent the promotion of dangerous drugs in developing countries. Under the Community Partners initiative citizens and the CAA have complimentary roles.

Citizen's role:

- Citizens give \$25 per quarter - more if they can afford it, less if they are not very financial.
- Citizen can take part in Campaign Groups, help plan community action, write letters and help with media work.
- Citizens who are not able to take part actively in the Campaigns, can make financial contributions which are a real help in initiating a groundswell of community support for change.

Community Aid Abroad's role:

- CAA's Public Policy Unit spearheads the campaigns and provides resource material; and
- Citizens receive a quarterly campaign pack with updates on specific campaigns and suggestions for community action.

Questions for Discussion

- a) What skills and competencies are associated with the work of active citizens reported in Resource 4?
- b) What are the moral, political, social and economic reasons underlying the forms of community action reported in Resource 4?
- c) How is the community action projects being undertaken by these active citizens contributing to sustainable development?
- d) What knowledge and competencies might be taught participants as part of a program in global education?



RESOURCE 5

ETHICAL INVESTMENT

Citizens can invest in companies which profit from:

- exploiting workers in Third World Countries;
- destroying or polluting the environment;
- manufacturing and selling armaments;
- promoting alcohol or tobacco, and
- testing on laboratory animals

Alternatively, informed and active citizens can make ethically and socially responsible investments (Baumol and Blackman, 1991; Bruyn, 1991; Luthans, 1971; Pearce, Barbier and Markandya, 1990; Simon, Powers and Gunnerman, 1982). The Ethical Deposit Fund operated by Community Aid Abroad provides one such means for ethical investments. Community Aid Abroad introduced this ethical investment opportunity for concerned citizens.

CAA is a leading Australian overseas aid agency, established in 1953 by Rev. G.K. Tucker, founder of the Brotherhood of St. Laurence. CAA has achieved remarkable success with its overseas aid programmes and through its development education activities. CAA concentrates its overseas aid on community based, self-help development projects, and is active in Africa, Asia, the Pacific, Latin America, and within Aboriginal communities in Australia. There is public recognition of CAA's work and its views command attention from government, the media and the public. CAA is a member of the International Oxfam movement.

CAA is incorporated in Victoria as a company limited by guarantee. It now operates in all Australian states and the A.C.T. Its national office is located in Melbourne. The audited accounts for 1988/89 show that in the year CAA spent about \$5.5 million on overseas aid, Australian Aboriginal projects and development education projects. Funds for CAA's operations are derived mainly from public donations, government grants and the profits earned by its subsidiary company. CAA Trading Pty. Ltd. imports and sells through its shops and by mail order, handcrafts made by artisans in the Third World. The Ethical Deposit Fund has been developed for the purpose of providing an additional contribution to CAA's income.

Ethical investments

By making a conscious decision about how investments are to be used, informed and active citizens can, in a small but nonetheless significant way, help change the world.

Citizens can invest with confidence

With an Ethical Investment Fund, citizens can be sure that their money will NOT be used by exploitative or socially irresponsible companies or institutions. Citizens can be sure that their money will NOT be invested in arms, alcohol, tobacco, uranium, gambling, trade with South Africa or environmentally damaging industries. Why? Because CAA takes advice on its investments from specialists in socially responsible fund management. The CAA Trading Ethical Investment Fund allows:

- Direct assistance to artisan communities overseas, allowing for advance payments (often up to 6 months ahead) to purchase raw materials, and so artisans can receive wages whilst goods are being made;
- CAA Trading to minimise expensive bank finance whilst expanding its range of products and orders;
- Citizens can invest their money ethically and where it is most needed, and
- A fair return on the money invested by citizens.

Investments

The Fund is a positive ethical investment in that the surplus will be directed towards CAA's work. It is also a non-directed ethical investment because no investments are made in companies whose activities are believed to cause social and/or environmental damage. CAA has the ability to track and carefully monitor all investments.

Security

The funds deposited are held in a separate Trust account until they are invested. The Ethical Deposit Fund is limited to investing in Government, Semi-Government and Securities guaranteed by a Government, Bank Securities and debentures, promissory notes and other securities having a sound credit rating with a recognised credit rating service, to

deposits with authorised dealers in the short-term money market, or to other ethically sound investments approved by CAA. Funds are readily available for repayment on maturity, or for earlier redemption if required by the depositor. Interest received on the investments (after payment of interest due to depositors) is used to augment CAA's income.

Investors can choose their interest rate

Investors choose whatever interest rate they feel they need, it has been up to a maximum of 7.5% p.a. Alternatively, investors can forgo interest altogether, thus considerably increasing the benefits that their money can bring to CAA and its project partners.

Terms and Interest Rates

Deposits, which are unsecured, are available for periods (at the option of the depositor) of 6 months (from date of receipt), or for periods of 1, 2, 3, 5 or 7 years, at interest rates (at the option of the depositor) of 0, 2.5, 5, 7.5% p.a. Interest is fixed for the term of the loan, except that CAA reserves the right to vary the rate of interest for deposits bearing an interest rate of 7.5% and above in the event of a marked change in general interest rates. In such an event, four weeks written notice of variation is given to all such depositors who have the right to either convert their deposit to a new rate or to redeem it (or a combination of the two).

Funds deposited for 1 year or more mature on the last day of the month in which the deposit was received, after the appropriate period. Funds may be withdrawn prior to maturity provided that six weeks written notice of withdrawal is given. No adjustment of interest rate is made in the case of early redemption of funds. Interest on funds deposited for 6 months is payable on maturity. Interest due on funds deposited for 1 year or more is payable annually on the last day of the month in which the funds were received. Interest may (at the option of the lender) be paid either by cheque or compounded and paid on maturity. A deposit certificate is issued to each depositor acknowledging the funds deposited and setting out details of terms and interest rates. Funds are only accepted on the appropriate Application Form.

Citizens can invest in a better world

Any profits from the Fund are directed to CAA's development projects. The profits provide seed capital, collateral and revolving loan funds. So for years to come, investor's money can continue to empower CAA's project partners to work for change and social justice.

Citizen's investment can benefit these people and their future

In India, CAA helps to fund The Institute of Self-Management. The institute's wide-ranging activities include the establishment of 20 village credit unions and an associated district federation, training for barefoot lawyers, the provision of legal aid, and training in leadership, awareness, communication skills and credit union management.

In Bangladesh, a revolving loan fund for 4 villages in the Gopalganj district has been extended. The fund provides loans for both men and women for small business, raising goats, paper-bag making, and the purchase of rickshaw vans. Leadership training is provided, as well as functional literacy courses for 500 adults.

In the Mt. Hagen area of Papua New Guinea, investors' deposits help to fund a pilot credit scheme designed to provide loans to rural women wishing to develop self-employment initiatives. Such schemes are a highly effective means of improving the standard of living in rural societies without creating welfare dependency. Women have proved to be reliable credit risks and to have a high success rate in their businesses, but usually they are excluded from traditional credit schemes.

Questions for Discussion

- What skills, competencies and knowledge are associated with the work of active citizens reported in Resource 5?
- What are the moral, political, social and economic reasons underlying the forms of community action reported in Resource 5?
- How is the community action projects being undertaken by these active citizens contributing to sustainable development?
- What knowledge and competencies might be taught participants as part of a program in global education?



RESOURCE 6

PEOPLE WORKING FOR CHANGE: PEOPLE-TO-PEOPLE PROJECTS THAT TACKLE THE CAUSES OF POVERTY

The Integrated Agro-Forestry Project - Con Cuong District, Vietnam, is a joint action project of Community Aid Abroad and Freedom From Hunger against poverty and associated socio-economic injustices.

Location

Con Cuong District, Nghe An Province, Vietnam.

Implementing Body

Con Cuong District People's Committee.

Background

There are approximately 10 kilometres between Vinh City, the capital of Nghe An Province, and Khe Thoi and Chau Son villages, the two communities involved in a ten year agro-forestry project in Con Cuong district. The road twists and turns northwest, then due west, as you travel inland to the higher elevations of this predominantly mountainous region of Vietnam.

Nghe An is one of the largest and most populated provinces in Vietnam, located in the north-central "typhoon belt" of the country. There are approximately two million people here. As is typical throughout the country, the further inland one travels and the more mountainous the area, the greater the chance of encountering ethnic minority communities - Hmong, Lao, Tai Van Kieu and Don Lai, to name a few. Con Cuong district is located in the centre of the province near the Lao border, and is 90% ethnic minority peoples. The district officials are Tai. *People in these areas often suffer from long periods of food deficit, because of lack of access to land and also because of poor soil. Another factor is the cycle where individuals are weakened by the lack of food and proper nutrition (undernutrition and malnutrition respectively). Without a proper diet, men, women and children are much more susceptible to disease (malaria epidemics are a regular occurrence in these areas) so they do not have the energy to carry out their daily activities. So the cycle continues.*

The Project

The Con Cuong District People's Committee, together with the Agricultural Bureau and villagers, devised a 10-year plan to improve the nutritional standards of the people. The poorest families within two villages were identified by the villagers themselves to participate in the project.

Each family receives a 50-year lease for a plot of land on the hillsides. They then clear away the scrubby secondary growth on these hills and cultivate and harvest crops according to a cropping schedule mapped out by the village committee. Crops that require a longer growing season, some between 7 and 10 years - such as cinnamon trees - are grown alongside medium and short term crops (tea and vegetables respectively). Crops are grown according to the appropriate growing season. Some require hotter weather, some cooler, while others need a lot of water and some prefer drier conditions. As well as this, crops are planted according to their compatibility (companion planting). For example, farmers have found that leguminous vegetables such as beans and peas add nitrogen to the soil and therefore increase corn yields when grown alongside one another. Farmers have also found that a diverse farming system that includes tree crops interspersed with low crops protects the hillsides from erosion.

In this way the program incorporates the farmers' knowledge and understanding of local growing conditions with a more intensive growing schedule and access to more land. This results in an increased harvest of both food and cash crops, some of which actually improves the fertility of the soil. The CAA's Program Coordinator for SE Asia, who visited the area recently comments: "It was clear what the villagers thought of their project. We walked for miles through the mud and rain to be proudly shown plots of tea, pineapple, corn and other crops.

People say that the agro-forestry project had given them a home for the future and that they felt their young people would stay in the village, as there was something to which they could look forward. The key to the success of this project seems to be secure land tenure for a good length of time, and the enthusiastic involvement of the villagers themselves".

Citizen Contribution

To assist farmers in the initial stages of labour-intensive land clearing activities, CAA and Freedom From Hunger supported a "food for work" program. The contributions of Australian citizens enabled CAA/ Freedom to expand this work and establish the necessary tree and shrub nurseries. Some areas have already been planted, but many are still to be planted. There is also a need to purchase vegetable seeds and small portable pumps to service the nurseries. Citizen contributions are helping to build on the renewed hope of the people and spread the benefits further along these two poor communities (Afshar and Agarwal, 1989; Beets, 1990; Dover and Talbot, 1987).

Questions for Discussion

- a) What skills, competencies and knowledge are associated with the work of active citizens reported in Resource 6?
- b) What are the moral, political, social and economic reasons underlying the forms of community action reported in Resource 6?
- c) How is the community action projects being undertaken by these active citizens contributing to sustainable development?
- d) What knowledge and competencies might be taught participants as part of a program in global education?



RESOURCE 7

AMNESTY INTERNATIONAL

ACTIVE CITIZENS WORKING FOR HUMAN RIGHTS: A CASE STUDY

Active citizens participating in Amnesty International campaign for :

- The unconditional release of prisoners of conscience.
- Fair and prompt trials for all political prisoners.
- An end to the death penalty and torture in all cases.

Amnesty is impartial

Amnesty International believes that human rights violations are worth fighting against wherever they occur. In any single year, this means taking action on some 140 countries. *To safeguard impartiality, members do not work for prisoners in their own country.*

Amnesty is independent

Amnesty International is independent of all governments, political factions, ideologies, economic interests and religious creeds.

Amnesty is accurate

Amnesty International's activities depend on meticulous research into allegations of human right violations. The credibility and accuracy of Amnesty's research is internationally recognised.

Amnesty is active

Victims of human rights violations and their families need practical help. Through its network of members and supporters, Amnesty International takes up individual cases, mobilises public opinion, maintains pressure on governments for the release of prisoners of conscience, fair and prompt trials for political prisoners, an end to torture and executions, and improved international standards for the treatment of prisoners.

Amnesty is supporter-funded

Amnesty International accepts no monies from any government. It is entirely funded by its supporters-informed and active citizens.

Amnesty is on the spot

Amnesty International representatives observe trials where accepted international standards are at issue, meet prisoners and interview government officials. Amnesty International also works to protect human rights with other international organisations such as the United Nations, the International Labor Organisation and UNESCO.

Amnesty is effective

Amnesty International works. It does more than expose human rights abuse. Since 1961 Amnesty International has seen thousands of prisoners released, torture condemned and the death penalty abolished in more countries every year.

Amnesty is community-based

Amnesty International has an active worldwide membership. There are more than 700,000 members in over 150 countries. Members, as informed and active citizens, come from all walks of life and are encouraged to participate as fully as possible in Amnesty International's many activities.

How real is need?

Every year, many thousands of people are imprisoned, tortured or killed by governments for what they believe in - or simply for where they were born. A recent Amnesty International report details human rights violations in some 138 countries. In 1989 alone, Amnesty International launched 577 Urgent Action appeals to assist people under immediate threat of torture or execution. In Sri Lanka, for instance, extrajudicial executions, arbitrary arrests and torture escalated dramatically throughout the 1980s. In June 1989 the world watched in horror as government troops fired on pro-democracy protesters and bystanders in Beijing. Within hours, Amnesty International had begun mobilising members to protest against the killings and arrests and try to prevent further human rights abuse.

Within 5 days, 250,000 letters and telegrams had been sent to the Chinese authorities - by September, the total had risen to well over three million.

But what can individual citizens do?

Amnesty International's lifeblood is voluntary support of informed and active citizens. Amnesty can use whatever time, skills or money citizens can offer. Collectively, the help of individual citizens makes a difference to the world-wide struggle for human rights. Amnesty International has more than 35,000 members and supporters in Australia. A citizen who becomes a member of Amnesty International can:

- *Join a Group*

Local groups carry out some of the most satisfying and effective civic work on behalf of victims of human rights abuse. There are over 180 local groups in Australia and 4,149 worldwide. These groups work for a particular prisoner of conscience, participate in country or theme campaigns, promote Amnesty International's concerns and activities in the local community, and raise funds to support Amnesty's work.

- *Join an Action Network*

Citizens can work for human rights from their own home. Community action networks operate by getting as many people as possible to send letters or telegrams on behalf of particular cases of human rights abuses. Amnesty's networks include: Prisoners of the Month, Urgent Action cases, Religious, Womens', Trade Union, Medical and Lawyers Networks.

- *Provide financial support*

Amnesty International urgently needs funds to help the victims of human rights abuse. The life-saving appeals, essential research, campaigning and vital publicity work all cost a great deal of money. Any amount citizens can give is gratefully acknowledged. All donations over \$2 are tax-deductible. As a Friend of Amnesty International, citizens are kept in touch with the organisation's activities and members can support Amnesty's work as and when they can (Also see Claude, 1989; Larsen, 1978; Power, 1981; Weston, 1989).

Questions for Discussion

- a) What skills, competencies and knowledge are associated with the work of active citizens reported in Resource 7?
- b) What are the moral, political, social and economic reasons underlying the forms of community action reported in Resource 7?
- c) How is this community action project being undertaken by these active citizens contributing to sustainable development?
- d) What knowledge and competencies might be taught participants as part of a program in global education?

READING 1

EDUCATION FOR INFORMED AND ACTIVE CITIZENSHIP

Michael Garbutcheon Singh

Recent developments in Australia have seen efforts to reconstruct the study of citizenship. In February 1989 the Senate Standing Committee on Employment, Education and Training of the Parliament of the Commonwealth of Australia released its report, *Education for Active Citizenship in Australian Schools and Youth Organisation*. One of the goals of education emphasises the development of knowledge, skills, attitudes, and values that will enable participants to participate in the deepening and extension of democracy in Australian society. Schools have a particular responsibility to prepare participants for informed and effective participation as citizens in the protection and further development of democracy in this country.

The Senate Committee in its report argued that the aim of education for active citizenship went beyond providing participants with an understanding of the workings of government, to develop in them an appreciation of the role of community groups and non-government organisations as instruments of active citizens, as well as motivating participants to become active citizens themselves. The Committee's definition of "active citizenship" captures key elements of this important concept, with its emphasis on knowledge about politics, the workings of the political system, an understanding of how the social and political systems work, the motivation and the capacity to put that knowledge to good use, and active commitment to democracy. An active citizen is someone who not only believes in the concept of a democratic society, but who is willing and able to translate that belief into action. Active citizenship is a compound of knowledge, skills and attitudes: knowledge about how society works; the skills needed to participate effectively; and a conviction that active participation is the right of all citizens (Aulich, 1989, p.7).

All citizens have certain social roles, rights and responsibilities in relation to the state. To enable participants to fulfil these roles and to exercise their rights and responsibilities, both now and in the future, certain learning as essential. This learning includes the rel-

evant knowledge, particular skills, processes and attitudes necessary for participants to develop and maintain a thoughtful and practical commitment to democratic principles and values.

In addition to these learnings, participants should also develop the ability to respond efficaciously to the functional demands of institutions of society. No doubt this would include customary knowledge of voter registration, electoral processes, meeting procedures, the division of powers within the state, and the importance of social criticism and dissent. In particular, there is need for a socially critical perspective on the relationship between the ideal and practice of democracy. This involves exploring the contradictions between expression of core values and practices. For instance, schools can provide an environment where participants can test the relationship between democratic ideals and socio-economic realities. It should also involve participant participation in school governance and decision-making. Schools should establish learning experiences characterised by the application and testing of core democratic virtues (Eg. socio-economic justice; freedom; equality; and concern for the welfare of others).

This view of citizenship challenges the notion that political ignorance, cynicism and apathy are necessary for the deepening and extension of democracy. The Senate Committee of Inquiry, for instance, argued that "authoritarianism and corruption thrive when a citizenry is confused or apathetic" (Aulich, 1989, p.7). In the light of political misconduct and illegal activities disclosed throughout Australia in recent years it would be a mistake to assume that the rising generation of citizens have been receiving an adequate education during the past few decades (Etzioni-Halvey, 1990; Preston, 1990). On the contrary, there has been public criticism of State education systems for their trivialisation of citizenship learnings and their role in educating participants for passive citizenship. In a submission to the Senate Committee, it was said of one State education authority that:

- Citizenship learnings tend to be descriptive and functional, often trivial, usually bookish and removed from everyday experience.
- Citizenship learnings tend to be passive and deductive exercises, confined to the classroom and school environment, with limited application to community life and limited emphasis on the development of skills for active and informed participation (cited in Aulich, 1989, p.28).

In this context it is important to consider further the role of education programs in responding to these problems and possibilities. However, citizenship as an issue for study has not been widely incorporated into education programs throughout Australia (Aulich, 1991). Among the few such courses, there are those which are oriented towards overcoming participant' indifference and boredom with parliamentary and electoral matters by endeavouring to provide participants with knowledge of the voting systems of various levels of government and the use of probability theory in assessing the results of opinion polls. Ironically, time for teaching participants about democracy, the responsibilities of citizens, the election of parliamentarians and the workings of government, is seen as competing with their learning from the struggles by active citizens associated with such socially significant issues as the rights of consumers, the colonised, and the aged. By and large the concern of this approach is to emphasise the importance of the rising generation of citizens learning about the nature and functions of the state; it is much less concerned with the collaborative advocacy or community action by active citizens.

Given the recent developments in Australia, it is clear that active citizenship is no longer perceived as merely a kind of irrational behaviour. The question which now arises is: "How to study active citizenship?" There is a need for a range of possible ways for reworking education for active citizenship. For instance, Fien (1990) has argued for a socially critical orientation to educating for active citizenship which promotes a critical analysis of the patterning of power relations in existing socioeconomic arrangements, discloses contradictions between their rhetoric and practice, and challenges them to bridge the gap.

It is possible to study active citizenship via the community action of social movements (see for example Singh, 1992; Wood, 1985). Social movements arise out of the community action of citizens and are directed to

express the aspirations, interests, values and norms of such social collectivities. Active citizens include environmental protectors, women for working for equality, civil rights workers, anti-war and disarmament campaigners, and community self-help groups. The idea of active citizen sees people not only as reacting to situations but also actually producing them. A social movement consists of active citizens opposed to the existing relations of domination and conflict in society, share similar cultural, economic and social orientations and are in contention for the management of these resources and activities. The women's movement, for example, consists of active citizens who have developed a social critique of the existing socioeconomic order and its relations of patriarchal domination; who share the same cultural orientation towards social justice and, who are using their social competencies to gain control over the management of socially, culturally and economically significant activities. At stake in the work of active citizens is a set of resources and models that they seek to manage and control.

Introducing the concepts of social movement and community action to a discussion of education for active citizenship raises a number of interesting issues (Barbalet, 1988). As a means of socioeconomic and cultural change the community actions of social movements redefine what is meant by citizen participation. Community action initiatives are composed of legally and socially constituted as citizens working collectively rather than individually. They are linked in community action through a shared self-consciousness of purpose. Thus, although citizenship is vested in individuals, it is used to create groups, associations and social movements of many kinds.

There is a two-way relationship between citizens and social movements, in so far as the community actions of social movement facilitate the development of citizenship, while the rights of citizenship, once secured, nurture the development of social movements (Barbalet, 1988). The conditions for citizen participation in community actions requires that they draw upon a range of material and social resources, including norms and rights. In the absence of the rights of citizenship the conditions for producing community action are likely to be constrained. However, the suppression or repression of community action by citizens does not necessarily mean that change is impossible. Paradoxically, community action both contributes to and is facilitated by citizenship. Where

such civil rights are absent community action can be a source of power and knowledge in providing for successful change. What is not available as a right may be achieved through community action.

The participation of informed and active citizens in community action is not only a consequence of socioeconomic situations but also a creators of them as well. Through community action, citizens work as agents of socioeconomic change, rather than being merely its product. Of course, the outcome of a mobilised pressure for inclusion of new citizens or new citizen rights cannot be guaranteed or predicted. Further, it is necessary to avoid the conclusion that once civil rights are achieved other types of citizenship rights simply take time to emerge. Community action is most crucial for the expansion of citizenship and the deepening of democracy; this is especially so when opposition to such initiatives is highest (Barbalet, 1988). One characteristic feature of citizen participation in community action is their capacity to mobilise resources. Consider for a moment the community action sponsored by the Aboriginal Civil Rights movement. It mobilised resources for social change, secured the location of Aboriginal people in some sections of Australia's institutional power structure, redefined Aboriginality, and is producing a reappraisal of Australian institutions.

This approach to citizen participation in community action rejects the view that such forms of collective behaviour are primarily oriented to the resource mobilisation (Barbalet, 1988). A quite different understanding of the relationship between citizenship and community action need to be explored. It needs to be understood that citizenship participation in community action is the basis of cultural transformation in Australian society. Such community action is oriented towards questioning the taken for granted definitions, roles, functioning of the socio-political arena. From this perspective community action is the source for changing existing cultural, economic and social patterns. It is in this sense, the community action undertaken by organisations such as Community Aid Abroad and Amnesty International, provides an excellent illustration of informed and active citizenship, which is not only challenging Australia's relations with the "Third World", but is seeking to establish an entirely new conception of what this relationship should be.

READING 2

ETHICAL GUIDE TO RESPONSIBLE TRAVEL

Michael Garbutcheon Singh

If you are travelling to the "Third World," or to an Aboriginal community in Australia, you will benefit from understanding the forces that enable, or prevent, people from achieving a reasonable quality of life. The cost of mass tourism can be reduced markedly by responsible travel by informed and active citizens. How can we understand more about the opportunities and constraints that "Third World" and Aboriginal communities face? In this lecture we consider some of the many practical and personal travel suggestions to assist tourists to increase the positive impact of their travel activities.

What are the benefits and costs of tourism?

From its humble origins tourism has grown into the world's largest industry, turning over an astonishing US \$2 trillion in 1987 and employing one out of every sixteen workers, world-wide. Tourism brings in foreign exchange, creates jobs, and improves airports, roads and communication facilities. Tourism can help preserve the world's ancient heritage and natural environment such as the pyramids of Egypt, Europe's historic buildings and Kakadu National Park. It is expected that some controls over the number of people visiting these sights will have to be implemented in the near future. On a personal level there are many potential benefits for tourists, for example:

- to escape from the stresses of their every day lives, to relax and be happy;
- to meet new people and make new friends;
- to learn about other cultures and increase international understanding; and,
- to experience personal challenges.

Tourism however, while bringing much of benefit, also has its downside. The costs of developing tourist resorts and infrastructure are considerable, and frequently the drain of money out of a host country can leave as little as 20% of tourist expenditure remaining. There are also other associated costs.

Tourism can damage the physical environment

Tourism can damage the natural and built environment (Innskeep, 1991). Some of the world's beaches have been severely affected by high rise apartments and hotels, necessitating the carting of sand to replenish that lost to the tides. Parks and river systems have been polluted and almost ruined by the sheer volume of visitors. Caves and Aboriginal sacred sites have been so damaged that screens have had to be installed to protect what is left. Beautiful natural beaches, coral reefs and mountains are being destroyed. Mine owners gouge the hills to sell soil for hotel construction. Hotels dump sewage into the sea. In some places drinking water now has to be brought in by truck for all, or part of the year. Significant damage is being done as a consequence of trekking and climbing. The non-biodegradable items which tourists bring often end up thrown into rivers, or can be found strewn around the edges of villages. We need to think and talk about the things that we can do about this.

Tourism can have a major impact on indigenous people

There are two main and opposing schools of thought, regarding the impact of tourism on indigenous people (Richter, 1989). One suggests that the culture of such people will be strengthened through the reproduction of "genuine", rather than "commercial" culture for the tourist industry. The other argues that contact with tourists will weaken, if not destroy, indigenous cultures, unless precautions are taken. Here, it must be emphasised that the aim is not to preserve people's "cultures" as museum pieces. It is well-recognised that all cultures constantly undergo a process of change. Indigenous people want tourists to have contact with their culture on their terms, including control over sources of information, respect for privacy and the development of activities catering to the interests of tourists. They have, for example, responded to the negative aspects of tourism, and especially the issue of invasive photography, by closing off their community to outsiders. The

taking of photographs is regarded as one of the worst social aspects of tourism. Tourism is having a mixed impact and it is encouraging to see that efforts are being made to control some of the problems. In some instances, for example, difficulties with damage to, and a lack of respect for, sacred sites and the environment have been corrected.

The impact of tourism in some places has been on the ethnic minority people who have been displaced from their land to the hills where they now eke out a meagre life farming and selling woven baskets. The cost for them has been very high. Their young no longer have a decent environment in which to grow up. Tourists have brought naked bathing, drunkenness, drug taking and a hunger to satisfy their sexual urges to the area. Pimps, prostitutes, drug dealers and gamblers have followed them. Maintaining one's culture in the face of the avalanche of tourism is extremely difficult, and even the strongest culture becomes considerably diluted over the years. Traditional dances which were once only performed at important ceremonies, are now performed regularly at tourist gatherings, for cash. This has led to a decline in the meaning, spiritual relevance and dignity of these dances. Handcrafts have also declined in quality due to mass tourist demands for small, cheap souvenirs. Women, influenced by tourist fashions, no longer wear local dress which is far more appropriate for the tropics. Sometimes the results cause local people to become angry and resentful - a very different response to the initial hospitality and friendship they may have given visitors. We need to think and talk about the things that we can do about this.

Sex tourism has a major impact on women and children

Sex tourism has a major impact on women and children (Troung, 1990). The link between tourism and prostitution is apparent in the commercialisation and commodification of human relationships. Women and children are the main victims of this growth industry. The relationship between tourists and prostitutes is almost always unequal. The tourists' wealth brings power and advantage, which usually results in a relationship that is highly exploitative of the other person, who is usually extremely poor and powerless. An estimated 60% of the 2 million tourists who visited Thailand in 1982 were participating in sex tourism. There are an increasing number of children, of both sexes, becoming prostitutes in the "Third World". They are lured by pimps into brothels and often become addicted to drugs. Some are homeless street kids, some come from poor rural families, and some drift into it from their "exciting" contact with tourists, from Australia and other overdeveloped countries. These children usually have no education or trade, and can readily become beggars. Imagine a child prostitute, deteriorating physically and mentally due to drug addiction and the effects of being a prostitute. We need to think and talk about the things that we can do about this.

READING 3

COMMUNITY ACTION FOR RESPONSIBLE TRAVEL

Michael Garbutcheon Singh

Tourism is now the world's largest industry. Bringing great benefits to many countries - investment, foreign exchange, new jobs and wealth are all products of tourism. But tourism has a dark side too. It can bring labour exploitation, destruction of the environment and cultural insensitivity causing great hardship, especially in poorer countries. Tourism often causes cultural and environmental destruction.

Community Aid Abroad (CAA) has established "One World Travel" to tackle these issues, and to promote responsible travel. After all there is no point in funding overseas aid projects if Australian tourism undermines these projects and contributes to world poverty. Individual citizens can help in at least two ways.

1. Personal travel

Simply by travelling with One World Travel individual citizens will become a responsible traveller - someone who cares. One World Travel is developing a range of specialist tours which focus on meeting people from other cultures and worlds. This is a most exciting way to travel. It offers a way of bringing our strife-torn and poverty-ridden world together by knowing and understanding each other. One World Tours is based on Community Aid Abroad's highly successful study tours and goes beyond the ordinary tourist track - right into the heart of developing countries. One World travellers may meet the Lambadas from India, or the indigenous people of the Philippines, or the Hill People of Northern Thailand. They share bush tucker with the Aborigines in the Northern Territory, or "killer" beef in the remote Kimberley. One World Tours provides a moving human experience with people from other cultures.

One World Travel was developed by Community Aid Abroad to tackle the problems caused by tourism by promoting an ethic of responsible travel. It is a non-profit travel agency offering all the services that travellers expect: experienced professional advice, extremely competitive prices and package deals to suit individual and group needs. Most importantly, how-

ever, all the money earned by One World Travel goes towards Community Aid Abroad's development work in the "Third World" and Aboriginal Australia. One World Travel offers a range of tours that go off the beaten track, and focuses on meeting people from other cultures in an atmosphere of respect and understanding. Travel opportunities include:

- visits to village development projects;
- study tours focussing on efforts to counter injustice, inequality and environmental degradation, as well as
- offering relaxation, sight-seeing and the experience of another culture with local people as your hosts.

2. Community action

The foreign debt problem that most "Third World" countries face is one of the main causes of children being forced into prostitution and slavery. The tourism industry is a part of national policy in these countries as a result of loan conditions imposed by the International Monetary Fund (IMF) and the World Bank. This policy would be satisfactory if tourism promoters did not emphasise sex tourism. The Task Force to End Child Sexploitation in Thailand recently held a rally outside the offices of one British airline company in Bangkok to protest advertising material showing a semi-naked young girl, and describing the experiences of a male traveller with a prostitute in Thailand. Likewise, in the Philippines, Gabriela, the national coalition of women's organisations, has been working to promote the rights and welfare of children subject to sexual abuse. Australian must also consider ways of stopping Australian men from sexually exploiting women and children in "Third World" countries.

Individual citizens can help by becoming informed and active participants in community action projects and conferences highlighting the nature of sex tourism. In particular, there is a need for Australians to look at this society and establish what it is that makes Australian men want to visit "Third World" countries to subject women and children to sexual exploitation. The age,

race and gender of Australian men visiting "Third World" countries have enormous power in relation to the children they sexually abuse. Justice Elizabeth Evatt of the Law Reform Commission has proposed that Australians who travel overseas to have sex with children could and should be prosecuted under Australian law. There are no legal obstacles or constitutional prohibitions on doing so. The Commonwealth of Australia, under the External Affairs powers of the constitution, has the authority to make criminal laws to prosecute crimes committed by Australians outside Australia. Moreover, such an initiative would signal to "Third World" countries that Australia is committed to combating sex tourism.

Conclusion

Tourism is a major growth industry which is here to stay. It affects all of us, at home and abroad. However, tourism brings both benefits and costs to the host community. As we have seen, the benefits include:

- the creation of jobs;
- the generation of foreign exchange;
- the development of new facilities;
- the preservation of cultural and natural heritage; and, on a personal level,
- tourists have the opportunity to relax, experience and understand a different culture and enhance their lives.

However, there are many costs, especially to the peoples of the "Third World". These include:

- the siphoning of money out of their economies to promote tourist development and import "home comforts" for tourists;
- the pollution of their environment;
- the commercialisation and undermining of their cultures, and
- the prostitution of women and children through sex tourism.

As a tourist, Australian tourists have a lot of power and there are many things that they can do to reduce the undesirable aspects of tourism. Some of the main points to remember are:

- learn as much as possible about the culture and language of the country, or people, that you are going to visit;
- allow yourself time to rest and relax, and then look at the people you are visiting with respect and sensitivity;
- if circumstances permit, contact with a local person can enable you to see and understand much more than you can by yourself;
- be aware of your relations with the local people, especially women and children - avoid sexual relationships that are not based on equality,
- acknowledge that your visit can have an impact on the local environment and try to minimise this, and
- call for, and support Australian government legislation to punish those Australians engaged in the sexual abuse of children through "sex tourism."

SOFT TOYS KNOW ABOUT *the* ENVIRONMENT *too!*

TONY HEPWORTH
CHARLES STURT UNIVERSITY

INTRODUCTION

The workshop introduces participants to two social paradigms. One is the "Dominant Western World View" and the other is the "New Ecological Paradigm". Initially, participants will examine *only* the Dominant Western World View and, in doing so, will begin to explore its weaknesses. Two stories involving soft toy animals (who know more about the environment than humans do) invite participants to write an opposing set of views to the Dominant Western World View. In doing so they will be engaging in their own critical analysis of the paradigm that has guided western society for over two hundred years and, in effect, will be writing their own version of a New Ecological Paradigm.

The approach used in this workshop is consistent with the theory of discovery learning. The workshop encourages participants to be critical of one paradigm in such a way that they begin to develop *their own*, alternative paradigm. Only when they have developed this alternative for themselves, will the actual wording of the New Ecological Paradigm be presented to them for analysis and judgement.

Much of the workshop is based on two stories to be read to the class. The facilitator should rehearse these stories for maximum dramatic effect, prior to their presentation. Alternatively, the facilitator could ask a group of participants to rehearse and present each story.

OUTCOMES

Through this workshop, participants will:

- understand that the western world view of the environment has been locked in place for some time now, but that a new way of looking at the environment is slowly emerging;
- understand that unless humankind adopts this new paradigm, major structural damage will be done to the global environment;
- appreciate that change has to begin with each of us, and to accept that each of us has a responsibility to make the new ecological paradigm a reality; and



- practise a range of skills, from listening and interpreting, through identifying, role playing, debating, analysing, applying and generalising, to critical analysis, discovery, involvement and action.

WORKSHOP OUTLINE

There are four parts to this workshop.

1. Focussing Activity - "Where Do I Stand?"

Participants use a worksheet to acknowledge and justify their own positions on four statements with a rating of 1 (True) to 10 (False). Participants use this worksheet to review their positions at different points in the workshop.

2. A Mini-lecture on "Current Thinking on the Environment"

This mini-lecture introduces a series of themes which are developed in the workshop.

3. Two Stories

Two stories based upon soft toy animals, Riika the Hippo and Pablo the Parrot, are used to encourage participants to reflect on the environmental consequences of the dominant western worldview.

4. Debriefing

A debriefing activity allows participants to develop statements about a new ecological worldview and to reflect on their degree of commitment to it.

MATERIALS REQUIRED

OVERHEAD TRANSPARENCY MASTERS

OHT 1: Quotations

OHT 2: Dominant Western Worldview - New Ecological Paradigm

RESOURCES

Resource 1: Where Do I Stand?

Resource 2: Riika - The Environmental Refugee

Resource 3: Pablo - The Clever Parrot

Resource 4: Forest News

READING

Reading 1: Hepworth, T. (1993) *Current Thinking on the Environment*, Unpublished paper.

ADDITIONAL READING

Carton, W.R. and Dunlap, R.E. (1980) A new ecological paradigm for a post-exuberant society, *American Behavioural Scientist*, 24, 15-27.

Gersie, A. (1992) *Earthshakes: Storytelling in Times of Change*, Green Print, London.

Livo, N.J. and Rietz, S.A. (1986) *Storytelling: Process and Practice*, Libraries Unlimited Inc., Colorado.

Milbrath, L.W. (1989) *Envisioning a Sustainable Society*, State University of New York Press, Albany.

Perlmutter, H.V. and Trist, E. (1986) Paradigms for societal transition, *Human Relations*, 39 (1), 1-27.

ACTIVITIES

1. FOCUSING ACTIVITY: WHERE DO I STAND?

- Ask participants to examine the "Where Do I Stand" worksheet on Resource 1, and use the ordinal "1st" to mark where they (as individuals) stand on each of the four TRUE/FALSE continua.
- In groups of 3 or 4 participants discuss their answers and the reasons for them.
- After the discussion, invite participants to shift their "1st" to the left or the right if they wish.

2. MINI LECTURE - CURRENT THINKING ON THE ENVIRONMENT

A. Mini-lecture

Facilitator Reading 1 provides the text of a mini-lecture about current thinking on the environment. It is organised around four themes:

- Recent publications and their warnings
- Science and technology versus attitudes
- New ways of looking at the world
- Problems and solutions

Facilitators will be able to develop their own version of this mini-lecture by preparing their own OHTs and offering other examples and relevant audiovisual support.

B. Tasks on the mini-lecture

- Divide participants into groups of 3 or 4. Allocate each group one quotation from OHT 1. These are from the mini lecture. Each group discusses its quotation, addressing the following questions:
 - Do you agree with it? Why?
 - Do you wish to challenge it? Why?
 - Do you need to seek some answers that will help you understand the quotation? Which?
- Groups present their conclusions, or uncertainties, in no more than one minute per group.
- Allow several minutes for whole group discussion on the mini-lecture and points raised in the group reports.
- Invite participants to return to the "Where Do I Stand?" (Resource 1) to review their positions and mark any change, to the left or right, with the ordinal "2nd".

3. STORY 1: RIIKA - THE ENVIRONMENTAL REFUGEE

Explain that the rest of the workshop is based upon two stories and that the soft toy animals in these stories take the view that humans are rather silly creatures. Humans, according to these soft toys, have a large blind spot when it has come to the environment. They believe we have been so busy producing so that we can consume, that we have not stopped to count the costs. Now, all the costs are beginning to mount, virtually simultaneously, and we say "Isn't it terrible", but like the old joke about the weather, do nothing about it. The soft toys care for their human friends, but that does not mean they do not grow impatient at our uncertainty, nor does it mean they cannot express their anger at what we are doing to their natural homes.

Resource 2 is the text of the first story. As indicated in the introduction, the story should be prepared for presentation to the group as a dramatic reading.

Tasks on story 1

- In groups, participants prepare four sketches.
 - Group 1: A "before" mural, showing what the 39th waterhole might have looked like before all the changes took place.
 - Group 2: A "causes" mural, showing all the things that caused the changes, e.g. tractors ploughing the land, graders constructing roads, crops being sprayed.
 - Group 3: An "after" mural, showing what the 39th waterhole might have looked like after these changes had taken place.
 - Group 4: Another "after" mural showing the changes that had taken place for humans, e.g. fields of coffee trees, roads, bridges and dams, cities and factories.
- Ask participants to display their murals.
- Ask participants to write 3-4 sentences, *from Riika's perspective*, explaining what "environmental refugee" means and how Riika got to be an environmental refugee.
- Ask participants to write 3 - 4 sentences, *from a developer's perspective*, explaining that humans do take precedence over animals.
- In the story Riika says "Someone has to accept the blame". Debate this viewpoint. Half of the group take Riika's side and blame humans for all the changes. The other half can be against Riika and argue that humans need to change the environment so that life becomes better.
- Invite participants to return to the "Where Do I Stand?" worksheet (Resource 1) and to mark with an "R" on each continuum where they think Riika would place her mark. Then they mark with the ordinal "3rd" where they personally stand now.

4. STORY 2: PABLO: THE CLEVER PARROT

Story 2 is presented in Resource 3.

Present this story in the same dramatic way as the first story.

Tasks on story 2

- Ask the group if they think that Pablo understands that a forest is a system? Ask for reasons and, in doing so, ensure that the group understands:
 - what a system is;
 - how a forest is, or why it is not, a system; and
 - how important forests are to humankind.

Alternatively, use the information in Resource 4 as a basis for group discussion of these points.

- Divide participants into small groups to consider the following:
 - (a) Pablo is convinced that humans are "so silly". What are his reasons for thinking this way? Can you conceive of a time when the predictions in Stephanie's dream might come true or are they just too silly to even contemplate?

(b) Draw up a list of arguments *for* and arguments *against* the parrot's plan.
Cartoon may be used to illustrate some of these arguments.

- Hear and discuss group reports.
- Divide participants into three groups. Group one is comprised of those prepared to support the parrot's plan. Group two is comprised of those against the plan. Group three is in the middle - people who are still uncertain one way or another. Debate the merits, or foolishness, of the plan. Those in the "for" group have to take on the role of Pablo. As the debate proceeds individuals physically walk from one group to another as they change their views, e.g., from the "support" group to the "uncertain" group, from the "against" group to the "support" group. At the end of, say 10 minutes, the debate concludes and numbers in each group can be counted to determine majority opinion.
- Invite participants to return to the "Where Do I Stand?" worksheet (Resource 1) and to mark with a "P" on each continuum where they think Pablo would place his mark. Then they mark with the ordinal "4th" where they personally stand now.

5. DEBRIEFING - THE NEW ECOLOGICAL PARADIGM

- A. This activity gives participants the opportunity to develop a set of beliefs for a new ecological paradigm based upon their discussions in the workshop. Resource 1 is used.
 - Ask pairs to write a completely opposing stance to each of the four statements on the worksheet. Write those four stances next to the "10"s on the worksheet.
 - Group pairs into groups of four to six to refine the new statements.
 - Ask participants to discuss:
 - How close are you to accepting these new stances?
 - How close is society to accepting these new stances?
 - Present OHT 2 which contains one version of a new set of statements. This could be photocopied for distribution. Does the group agree with the statements under the New Ecological Paradigm? Are there any they would like to change?
- B. Review some of the main points from the mini-lecture. Ask the group, for the moment, to presume that Brown and the Bruntland report 'got it right'. Discuss the following:
 - Where, on the continuums, *should* society place itself?
 - What are the implications for the future of holding such a position?
- C. Invite participants to individually locate themselves on the continua and to consider what the implications for their future of holding such a position.
 - Invite participants to work in pairs to write three ways in which their life might change, because of the stance they have taken. Share these ways with others.
- D. Review the changes in stances participants have experienced on the various continua in Resource 1 during the workshop.



OHT 1

QUOTATIONS

To keep options open for future generations, the present generation must begin now, and begin together, nationally and internationally.

Some damage is clearly inevitable. Some depredation is tolerable.

Past human actions have left contemporary societies with an almost insuperable set of problems to solve.

The solution lies in our attitudes towards the earth and how these attitudes direct our actions.

In short nature was devalued. This was our generation's hidden curriculum.

"Everything" the environmentalists tell us, "must go somewhere".

The answer that is being heard, albeit in something of a whisper, is "We all do".

A world in which countries go their own way may not be worth living in.

Humans are part of the web of nature, with no part being any more or less important than any other part.

While the solutions are simple, they are not easy.

We are closing down the major life systems of this planet.

OHT 2**DOMINANT WESTERN WORLDVIEW****NEW ECOLOGICAL PARADIGM**

Assumptions about the nature of humans

People are fundamentally different from all other creatures on earth, over which they have dominion

While humans have exceptional characteristics (culture, technology, etc), they remain one among many species that are interdependently involved in the global ecosystem.

1..2..3..4..5..6..7..8..9..10

Assumptions about social causation

People are masters of their destiny: they can choose their goals and learn to do whatever is necessary to achieve them.

Human affairs are influenced not only by social and cultural factors, but also by intricate linkages of cause and effect feedback in the web of nature; thus human actions may have unintended consequences.

1..2..3..4..5..6..7..8..9..10

Assumptions about the context of humans society

The world is vast and thus provides unlimited opportunities for humans.

Humans live in and are dependent upon a finite biophysical environment which imposes potent physical and biological restraints on human affairs.

1..2..3..4..5..6..7..8..9..10

Assumptions about the constraints on human society

The history of humanity is one of progress; for every problem there is a solution and thus progress need never cease.

Although the inventiveness of humans and their powers derived therefrom may seem to continually extend out limits, ecological laws cannot be ignored, nor will they go away.

1..2..3..4..5..6..7..8..9..10



RESOURCE 1

WHERE DO I STAND?

People are fundamentally
different from all other
creatures on earth, over
which they have dominion

...1...2...3...4...5...6...7...8...9...10

True

False

People are masters of
their destiny: they can
choose their goals and
learn to do whatever is
necessary to achieve
them.

1...2...3...4...5...6...7...8...9...10

True

False

The world is vast and
thus provides unlimited
opportunities for humans.

1...2...3...4...5...6...7...8...9...10

True

False

The history of humanity is
one of progress; for every
problem there is a solution
and thus progress need never
cease.

1...2...3...4...5...6...7...8...9...10

True

False

RESOURCE 2

RIIKA: THE ENVIRONMENTAL REFUGEE

It was quite accidental really, but just as Stephanie Jones was walking by the table she happened to glance down at the newspaper. It was open at the Wanted page and her eyes fastened on a particular advertisement.

Wanted: Friendly homes for friendly hippos

Apply : HERM, 39th Waterhole, Malagarisi River, Tanzania.

Stephanie knew it had to be a joke, but she thought she would send a letter anyway ... just for the fun of it ... to the 39th Waterhole ... to see what might happen ... who knows?

That night a tea time she asked her parents if she could have a hippo from Africa for a pet. Her father said "Of course, but you will have to arrange to get the hippo all the way from Africa to our front doorstep" and winked at Stephanie's mother. Stephanie's mother just smiled.

That night as Stephanie sat at her desk writing the letter to the 39th waterhole her father poked his head around the door and asked "Homework?"

She replied "No, I'm writing to Africa for my hippo."

"Get me one too."

"Daddy, don't you think two hippos will be too many!"

"Yes, you are probably right" he said, and walked off. A minute later Stephanie could hear her parents laughing, and she felt a little stupid. "But" she thought, "who knows?" and then "I can't believe I'm doing this." But she finished the letter all the same. Then she added:

P.S. My parents say its OK.

P.P.S. Please send a hippo who speaks English.

The next morning Stephanie walked to the post office to airmail the letter. As she paid for her stamp she made sure the postal officer could not see the address on the envelope. She had to admit that she felt a little silly but she posted the letter, because Stephanie listened to a small voice inside her that whispered,

"Take a chance".

One week went by and Stephanie thought "Wasn't I stupid sending that letter". Two weeks went by and Stephanie thought "Wasn't I really stupid sending that letter". Three weeks went by and Stephanie knew just how stupendously stupid she had been. Four weeks went by and her father asked in his 'Ha. Ha. Ha.' voice "When is that hippo coming Steph?" Stephanie pulled a face but before she could answer the doorbell rang.

They heard Mrs Jones go to the door, heard it open, heard a warm, friendly voice say 'Hullo, my name is Riika, I speak English" and then there was a silence. A voice inside Stephanie shouted "See! I told you to take a chance didn't I!" She beamed at her father, "The hippo is at the front doorstep now Daddy". Her father looked a little confused.

A few seconds later when a pale faced Mrs Jones walked into the loungeroom followed by a hippopotamus, he looked very confused. Stephanie walked straight up to Riika, gave her a hug and said "I'm Stephanie, I wrote the letter to the 39th waterhole".

"Its nice to meet you" said Riika.

"The hippo can't possibly stay" said Mr Jones in a weak voice.

"But you invited me" said Riika, politely but firmly.

"We didn't mean it" said Mrs Jones. Still looking very pale.

"I have your letter inviting me" said Riika quietly.

"You will have to go back" said Mr Jones in a voice he didn't recognise.

"They only gave me a one way ticket" said Riika.

"We'll get you a return ticket" said Mrs Jones, near to panic.

"Who are 'they'?" asked Mr Jones. This time he thought he spoke in something like his own voice.

"HERM" answered Riika"

Neither Mr nor Mrs Jones knew what Riika was talking about and she knew she had to explain things.

"HERM" is the Hippo Environmental Refugee Movement, and while it is very nice of you to offer to buy me a return ticket, it just wouldn't help. I'm an environmental refugee. I can't go back."

"Huh?" said Stephanie's parents.

Riika went on. "I'm running away from an environment that has been changed so much that it has been destroyed for hippos. Hippos can no longer live at the 39th waterhole in the same way that people can no longer live at Chernobyl."

"That's silly" said Mr Jones, "you don't live at Chernobyl."

Riika sighed, and wondered why humans never seemed to understand. "Some of them" she thought, "are as thick as the pollution they create." "Let me explain a little more" she said. "Everything at the 39th waterhole, and in many other waterholes, has changed. I'm running away from an environment that has been changed so much that it has been destroyed for hippos. We can't live there anymore and we have to leave, just like the people who have had to leave Chernobyl. Nothing is the same in our home, everything has changed, for we have experienced 'progress'.

Riika paused for a breath and then continued. "Bush tracks have given way to roads and highways. Villages have been dammed. Forests have been cleared and the land ploughed and planted and sprayed. Our home, which was once big and beautiful and clean is now small and ugly and yukky. The air smells of factory smoke and diesel fumes, the soil grows crops like coffee which we can't eat and the water tastes of chemicals. The fish no longer swim, the butterflies no longer drink the flowers' nectar, the birds no longer sing. We had to move."

"We are very sorry for all that" said Mr Jones, "but you can't blame us, and you can't stay here."

"Someone has to accept the blame" said Riika. "Tell me, do you drink coffee from Tanzania?" asked Riika.

"Sometimes" said Mrs Jones.

"Do you eat cashew nuts from my country?"

"We had some last Christmas. They were delicious" said Mr Jones.

"Is your shirt made from cotton from my country?"

"I think it is" said Mr Jones.

"Then maybe you are to blame" said Riika. She went on. "Does your country send tractors and ploughs to Africa? Does it send trucks and graders?" There was a hint of anger in Riika's voice.

"It's hard to know. I suppose so. Maybe."

"Then maybe all of you helped destroy my home."

"Maybe we did" said Stephanie, who seemed to understand much better than her parents.

"But Riika" argued Mrs Jones, "when we do all those things, we do help the people of Tanzania."

"You do help the people" said Riika, "but you don't help the animals. Humans are only one of the species that live on this planet, but because you don't think about us, I'm an environmental refugee."

"Then maybe you had better stay with us after all" said Mr and Mrs Jones. "At least until we can find out what to do with you," Mr. Jones added under his breath.

That night the friendly hippo, who could speak English, slept in Stephanie's room. Riika actually slept at the head of the bed and Stephanie used her as a pillow. And in the darkened room, you couldn't tell Riika from all the other soft toys Stephanie had collected over the years. As she drifted off to sleep Stephanie murmured, "I have a hippo for a pet ... no, for a friend ... and a hippo for a pillow. Riika is my hippo-pillow."

RESOURCE 3

PABLO: THE CLEVER PARROT

Once, not that long ago, the world had large forests with lots of trees. But then things began to change. Steel axes took the place of stone axes and more trees were cut down than ever before. Then a German man called Stihl invented the chainsaw. The chainsaw was a wonderful invention if you were a logger. If you were a forest, the invention of the chainsaw was a disaster.

Some countries such as Brazil, Indonesia, Papua New Guinea and the Solomon Islands needed to buy goods from overseas to help their people. They bought food, medicine, machinery, computers, oil, weapons and trucks. To help pay for these goods they cut down their forests and sold the trees.

In Australia, we cut down some of our forests. Some of the wood we turn into woodchips and sell to the Japanese. Some of the wood we sell to other Australians for building houses. A lot of the wood is turned into paper so that we can have books, magazines, newspapers and comics.

And nobody worried too much. The trees we cut were being used for our needs.

But as more and more trees were cut, and the large forests began to shrink, some people did begin to worry. These people pointed out how important trees were to us. To start with, many trees are beautiful. Some are two or three hundred years old - quite old monuments really. Trees are also wonderful to play in, to picnic beside and to just lie under and dream.

More importantly, trees hold down the soil and stop it from being blown away by wind or washed away by rain. They also provide food, homes and resting places for many animals.

Most importantly, the trees give us the oxygen that we breathe. Without trees, we could not breathe.

Stephanie Jones learnt all this at school. She also learnt that every year more and more trees were being cut down, because more and more people needed food, medicine, machinery, computers, oil, weapons, trucks, houses and paper. And Stephanie began to worry.

In newspapers and on TV there was more news than ever before about the destruction of forests. In classes all over Australia teachers started teaching about the environment. Governments started to say how worried they were, but nobody did anything. They all just talked.

One night Stephanie had a nightmare. She dreamed that the world had cut so many trees down that there was a shortage of oxygen.

In the shops people queued to buy tins of fresh air.

Some carried their own supply of fresh air about with them, no matter where they went.

Because there was less oxygen for us to breathe, runners didn't want to race any more ... footballers refused to chase the ball ... swimmers had only floating competitions ... and children stopped running at parties and enjoying themselves. Instead they sat still and got bored.

The governments of the world got worried. Life wasn't very exciting any more. As people didn't exercise, but still ate the same amount of food - everybody got fat. While the tennis courts and football fields and running tracks were empty - the hospitals were very full.

As more and more trees were cut down, more and more terrible things happened.

The soil was washed away by rain and blown away by the wind ... and farmers found it hard to grow food.

Some dust storms choked people ... and made breathing very difficult.

Some muddy waters choked coral reef ... and tourists couldn't see anything while fisherman couldn't catch anything but dead fish.

And because trees can stop floods, and there were less trees, there were more floods ... and people drowned and homes got washed away.

Everybody, including the animals suffered. The world became full of environmental refugees.

Stephanie as usual was sleeping on Riika, her hippo-pillow, and her nightmare was so bad that her moaning and turning woke Riika. In fact it woke all the soft toys in Stephanie's room and they began to complain. (Soft toys are like humans - they hate being woken in the middle of the night.)

"Stephanie", said Riika in her gentle voice, "wake up and tell me what the problem is". But while Riika was gentle some of the soft toys gave Stephanie a bad time. They told her to "Be quiet!" and to "Shut up" and said other things that soft toys really should not say. Only the wombat, the owl and the possum, being night time animals, were enjoying themselves.

Stephanie did her best to quiet them and told Riika about her dream. When she had finished, Pablo, a soft toy rainforest parrot, asked in an I-know-something-that-you-don't-know voice, "Why are those terrible things happening Stephanie?"

"Because the people are cutting down the trees" said Stephanie. "Didn't I explain that?" Stephanie asked herself.

"But", said this cheeky parrot, "Why?"

"Because they need to sell the trees to make money" said Stephanie. "I know I explained that" Stephanie murmured to herself, "I wish Pablo had listened."

"But", said this rude parrot, "Why?"

"Because they need the money to pay for all the food, medicine, machinery, computers, oil, weapons, trucks, houses and paper that they need" it was told, a little impatiently. Then Stephanie added "Didn't you hear anything I said?" Stephanie was beginning to think that this was one soft toy that could be sent to the back of the cupboard for a week.

"But" said this impertinent parrot, "Why?"

"Because they have no other way to get their money to pay for these things" Pablo was told very impatiently.

"Yes they have" said the soft toy parrot, in a quiet, but knowing way. "Oh, yes they have." Stephanie just hated the tone of voice that Pablo was using.

"You don't even go to school" shouted Stephanie, "so how would you know!" and began to think maybe two weeks in the back of the cupboard was a good idea. But Pablo did know. Stephanie was forgetting that parrots are experts on trees. They spend all their lives in trees, but more than that, they do get a bird's eye view of the role that trees play in the environment.

"All they have to do" said the soft toy parrot with a smile on his face, "is to pay the people to not cut down the trees and to pay them to plant more trees. So instead of buying timber, you would really be buying oxygen, soil, coral reefs and lives." And Pablo thought to himself, "Why are humans so silly?"

The next day Stephanie told the teacher what Pablo had said. The teacher was impressed and told the principal. The principal became excited and told the Australian government. The government faxed the idea to the United Nations and the United Nations went to work.

The bulldozers stopped and birds made nests in them. The chainsaws stopped and got covered by cobwebs. The timbercutters were all given shovels and young trees to plant. The soil no longer blew away or got washed away, and coral reefs grew again. There were less floods and so lives were saved.

And the United Nations were so impressed with the parrot's idea, that ever since Pablo has had a special seat on the Environmental Council of the United Nations.

RESOURCE 4

FOREST NEWS

THAILAND BANS ALL LOGGING

On 10 January, 1989, the Prime Minister of Thailand announced a ban on all forest logging. The decision came after floods and mudslides had brought terrible damage to much of South Thailand.

As well as mudslides, large quantities of logs and sawn timber swept down hillsides crushing villages that were in the way.

In all, 450 people died and 250,000 were left homeless and starving.

The ban states that all forests are now national parks and wildlife sanctuaries and forbids all logging in these areas.

Modified from: *Habitat Australia*, 17 (2), April 1989.

WHAT TROPICAL FORESTS GIVE US

A source of much life

Tropical forests cover only 7 per cent of the world's land area but contain between 50 to 90 percent of all our plant and animal species. The reason the figure is so vague, i.e. 50-90, is that so far we have not been able to spend as long as is needed in studying forests.

Homes for tribal people

Many hundreds of thousands of tribal people live in rainforests. The forest homes provides food and shelter, and if the forest goes then the whole lifestyle of these people also disappears.

Foods

Tropical forests provide a wonderful variety of foods for the world. Many of these foods are favourites of ours. Bananas, mangoes, pineapples, tea, rice, coffee, corn, peanuts, brazil nuts, cashews and oranges all were first found growing in the tropical forests.

Wild plants

Many rainforests plants have been taken from the forests and are now found on farms and plantations, e.g. rice, pineapples, bananas, tea. However, sometimes these crops are attacked by diseases and pests. When

this happens biologists have to go back to the forests to find wild varieties that may be able to resist these diseases and pests.

Medicines

Tribal people living in forests have what we call "bush medicine". These medicines are leaves, seeds, flowers, oils and so on that cure illness, provide poisons for arrows and spears and even drugs to get high on. Many of our modern medicines come from these "bush medicines". Over 2000 rainforest plants contain anti-cancer properties.

A Cooler Earth

Carbon dioxide is one of the well known "greenhouse gasses" that is heating up our earth. As trees grow they are able to pull carbon dioxide out of the air and use the carbon for their own growth. The more trees then, the less carbon dioxide and the cooler the earth.

Modified from: *Habitat Australia*, 17 (5), October, 1989.

DESTRUCTION OF THE FORESTS

In 1987 an area about the size of Austria - 8,000,000 hectares was cut, allowed to dry and then burned in the Amazon rainforest. It was cleared for two reasons. Firstly, so that the local people could have small plots of land to farm. Secondly, so large cattle ranches could be started to provide beef to the hamburger market in North America.

When one hectare of land is under tropical forest it supports about 800,000 kilograms of plants and animals. When it is covered with grass and given over to beef cattle it produces about 200 kilograms of meat per year. This is enough meat to make 1,600 hamburgers.

Tropical forests across the world are being destroyed at a rate of 20,000,000 hectares per year. This is an area roughly equal in size to the state of Victoria. In a size that it is easier to understand, two football fields of forest are disappearing every minute.

Modified from: *Habitat Australia*, 17 (5), October, 1989, and *New Internationalist*, June 1988.

READING 1

CURRENT THINKING ON THE ENVIRONMENT

Recent Publications and Their Warnings

Recent key publications on our environment have pointed to the need for change in our lifestyles. Lester Brown (1989) in an article in *Habitat Australia* argued:

Unless the threat of climate change, ozone depletion, soil erosion, deforestation and population growth are brought under control soon, economic decline is inevitable.

Time is not on our side ... We have years, not decades to turn the situation around. There is no guarantee that we will be able to reverse the trends ... but if we do it will be during the nineties. Beyond that will be too late.

The Bruntland Commission began Our Common Future with:

Over the course of this century, the relationship between the human world and the planet that sustains it has undergone a profound change. When the century began, neither human numbers nor technology had the power to radically alter planetary systems. As the century closes, not only do vastly increased human numbers and their activities have that power, but major, unintended changes are occurring in the atmosphere, in soils, in waters, among plants and animals, and in the relationships among all of these. The rate of change is outstripping the ability of scientific disciplines and our current capabilities to assess and advise. It is frustrating the attempts of political and economic institutions, which evolved in a different, more fragmented world, to adapt and cope. It deeply worries many people who are seeking ways to place those concerns on the political agendas. We have been careful to base our recommendations on the realities of present institutions, on what can and must be accomplished today. But to keep options open for future generations, the present generation must begin now, and begin together, nationally and internationally. (World Commission on Environment and Development, 1987).

In *A Green History of the World* Clive Ponting (1991) is not quite so alarmist. He concludes:

The problem of all human societies has been to find a means of extracting from the environment their food, clothing, shelter and other goods in a way that does not render it incapable of supporting them. Some damage is clearly inevitable. Some depredation is tolerable. In this wider perspective it is clearly far too soon to judge whether modern industrialised societies, with their very high rates of energy and resource consumption and high pollution levels, and the rapidly rising population in the rest of the world are ecologically sustainable.

However, Ponting's final sentence indicates that despite his measured objectivity, he is after all, alarmed:

Past human actions have left contemporary societies with an almost insuperable set of problems to solve.

Whether we adopt Brown's ten years or the Bruntland Commission's plea to "begin now", or Ponting's more measured response, the fact remains that we face major problems and that it would be unwise to adopt a "wait and see" approach. If the children we are teaching today, do not become part of the solutions that are needed, then by the time they are thirty, they may rightly, have lost faith in our generation, the one that nurtured and educated them.

Science and Technology versus Attitudes

We have, at our scientific and technological fingertips, the ability to make significant changes to our environment. But it is wrong to presume that the solution to environmental problems lies in our science and technology. The solution lies in our attitudes towards the earth and how these attitudes direct our actions.

Sean McDonagh (1986) makes a convincing point when he claims that "the more sophisticated technology becomes, the more it tends to place humans outside the community of the natural world, so that we feel no real affinity for the Earth".

In the last 200 or so years of our history the influence of such great minds as Rene Descartes, Francis Bacon and

Isaac Newton has shaped our thinking. We grew up in a society which "knew" that nature could be quantified by mathematics (Descartes), that the scientific method would unlock with unerring accuracy, all of nature's mysteries (Bacon) and that humankind was at the top of the pyramid of life (Newton). The earth, in short, was ours to command, and our science and technology would help us do just that. The beauty and wonder of nature was to be objectified and demystified. *In short nature was devalued. This was our generation's hidden curriculum.*

We believe now that these assumptions that guided our thinking, all too often quite unconsciously, are highly problematic. A new view of the world is developing and it is this view that will guide our thinking over the next few decades.

New Ways of Looking at the World

Firstly, it is now accepted that we live in a closed system and that when we do something to the earth at Point A and Time X its effects will be felt at Point B and Time Y. *"Everything" the environmentalists tell us, "must go somewhere"*. An excellent but distressing illustration of this truth is the fact that in the 1960's DDT in sprays used for killing insects, especially mosquitos, eventually worked its way through the food chain and finished up in the milk of nursing mothers and was fed to the newborn.

More recently the Australian findings against Agent Orange used in Vietnam and the fallout in Europe from the Chernobyl nuclear reactor in the Soviet Union have provided further proof of this statement.

The acid rain in Venice that originates in the nations to the northwest of Italy, the pollution in the harbour of Rotterdam that is brought by the Rhine River as it flows through the countries to the east of Holland, and the salt problem in our Murray River as it flows through farm lands and is joined by the Murrumbidgee, the Darling and a host of smaller rivers, further illustrate that *"Everything must go somewhere"*. They also illustrate another favourite saying of environmentalists, *"There is no such thing as a free lunch"* - sooner or later, someone, somewhere, has to pay for our actions at Point A and Time X.

Secondly, we are becoming aware that pollutants, e.g. oil slicks, pesticides, acid rain, radioactive air, do not carry passports and do not respect national boundaries. Questions are being asked in terms of who owns the seas? the rivers? the air? that carry these pollutants. *The*

answer that is being heard, albeit in something of a whisper, is "We all do". In the same way, as the cutting down of forests continues some are asking *"Who owns the forests?"* and the answer is the same, *"We all do"*. This is why *Our Common Future* argues that we must *"begin together, nationally and internationally"*.

Lester Brown (1989) makes reference to *"the global commons"* while *Our Common Future* (1987) uses the term *"the international commons"*. Such expressions herald a new way of perceiving the political divisions of the world. Nation states still exist, but the rivers that flow through them, the forests that straddle their boundaries, the seas that wash their shores and the air that flows over them belong, we are told by the whisper, not to those nation states but to all of us - irrespective of who we are and where we live on the earth. And irrespective of whether we are among the living or the greatest silent majority of all, the yet unborn.

Thirdly, there is a growing acknowledgment that we shall have to strike what Kenneth Piddington (1989) calls a *"global bargain"*. For Piddington, nations would have to negotiate their responsibilities for the environment, each nation having due regard for the needs of its own people as well as for the needs of all the people of the globe. As there are 160 odd sovereign nations on our globe it is clear that arriving at a global bargain will be a long, hard road. However, we can no longer afford the luxury of letting nation states be totally independent in their actions. Lester Brown (1989) makes a telling point when he suggests *"a world in which countries go their own way may not be worth living in"*.

One major factor that will make a global bargain difficult to arrive at is the vast differences in wealth and standards of living that separate nations. In the US for example there are 1.8 persons per motor car. In Oceania there are 2.8 persons per car. In China there are 1,374 persons per motor car. While it would be damaging to the environment if 1.2 billion Chinese had the same ratio of people to motor cars that the US has reached, it would be inappropriate for we in the developed world to advise the Chinese to halt their economic growth before they came anywhere near our level. Such advice would only be seen as unwelcome.

The island nation of Madagascar has a unique set of biological treasures in its forests. But Madagascar is a poor country and suffers from the pressures of a growing population. As a consequence these biological treasures are being cleared so that more farm land is available for

the people. One special plant found in the forests of Madagascar, the rosy periwinkle, holds promise for finding a cure for some forms of leukemia. Yet the rosy periwinkle is being cleared along with the forest. What kind of global bargain could we strike with Madagascar?

"The Global 2000 Report to the President" (1982) claims that by the year 2000 we will have forced 500,000 plants and animals to extinction. Thomas Berry (1988) in *The Dream of the Earth* claims the figure will be between 500,000 and 1,000,000. One can only wonder how many of these plants and animals might be like the rosy periwinkle and have properties that we desperately need.

Clearly, a global bargain is necessary. It will not be arrived at easily, but negotiations, however difficult they may prove to be, must begin.

Finally, as the idea that humans are above nature is slowly eroded it is being replaced by the idea that humans are part of the web of nature, with no part being any more or less important than any other part.

We humans have been so busy searching out the secrets of nature, that we have lost our sense of place in the scheme of things. Because we have been able to develop industry, harness nuclear energy, build great cities and tame rivers we have seen ourselves top of the pyramid. It is only when we count the costs of acid rain, nuclear fallout, polluted beaches and salination of our rivers and farmlands that we are forced to acknowledge that nature charges some high costs for our immature tinkering. We are slowly coming to realise that the metaphor of a pyramid is the wrong metaphor. The right metaphor is that of a web.

As well as the wrong metaphor, Thomas Berry (1988) would also claim that we have the wrong dream. We have dreamed of domesticating the planet. We should have dreamed of trying to understand our planet and becoming a part of it, rather than apart from it. Certainly, the writing of James Lovelock (1988) in *The Ages of Gaia: A Biography of Our Living Earth*, presents a strong argument that we have simply not done enough to understand how Earth functions. We have been so busy exploring the parts of our home that we have missed the bigger picture that is right under our noses - Gaia, or Earth, is a whole and can only be understood as such. We are, according to Lovelock, just another species - neither here nor there in the 4 billion year long history of Gaia - and neither the owners, nor the stewards of this planet.

Problems and Solutions

This rationale began with claims by Lester Brown and the Bruntland Commission that we have only a little time left, measured in a decade or two, to institute significant changes to our lifestyle. By "our lifestyle" they really mean those few nations that are highly industrialised, hold only 25% of the world's population but control 70-80% of the world's resources. Clive Ponting (1991) added a more moderate argument to these claims, but still expresses concern about an "almost insuperably difficult set of problems to solve".

To the problems we face, there are solutions. That much is clear. *However, while the solutions are simple, they are not easy.* We could stop acid rain if we changed, dramatically, our approach to industry. We could eliminate the risk of another Chernobyl by closing down the hundreds of nuclear reactors around the globe. We could minimise the greenhouse effect by banning CFC's immediately and shifting people from private cars to public transport. But these solutions would have significant effects on our standards of living. Our problems are deep seated and the solutions not easy to apply. They may well be "insuperable".

Our problems are caused by our demands - we want more energy, more buildings, more crops, more cars, more clothes, and so on. But more than that, we want the latest cars, fashionable clothes, modern buildings. We want more money spent on transport, defence, the police, education, health ... and above all, we want full employment. In short, we are living in a society that is addicted to consumption, and while there is no doubt that it is a comfortable lifestyle and that we vote for politicians who promise to deliver it to us, it does come with high costs. Thomas Berry (1988) argues:

We are acting on a geological and biological order of magnitude. We are changing the chemistry of the planet. We are altering the great hydrological cycles. We are weakening the ozone layer that shields us from cosmic rays. We are saturating the air, the water, and the soil with toxic substances so that we can never bring them back to their original purity. We are upsetting the entire earth system that has, over some billions of years and through an endless sequence of experiments, produced such a magnificent array of living forms, forms capable of seasonal self-renewal over an indefinite period of time.

He concludes that "we are closing down the major life systems of this planet". We can only hope that Berry is wrong, but we should act as if he is right.

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WOMEN

ENVIRONMENT

and

DEVELOPMENT

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INTRODUCTION

Women and men inhabit different environments and they use their environments in different ways. This workshop explores a range of women's environments. It addresses the various ways in which the processes of development have changed women's traditional environments while creating new female habitats. It also considers some of the strategies that women are using to protect and recover their environments. The workshop concludes with participants identifying a set of criteria that will promote sustainable development for women and their environments.

OUTCOMES

As a result of completing this workshop, participants should be able to:

- identify a range of women's environments;
- evaluate the impacts of the processes of development on women's environments;
- appreciate the range of strategies that women have adopted to protect or recover their environments;
- empathise with women's concerns about their environments; and
- identify a set of criteria necessary for the promotion of sustainable development for women and their environments.

WORKSHOP OVERVIEW

This workshop contains eight activities.

1. Personal Environments

In this warm-up activity, participants are asked to identify the nature and extent of their own environments.

2. Women's Domestic Environments in Australia

This activity explores women's domestic environments using housing plans and the insights of an Australian women architect.



3. Women's Work Environments in Australia

Statistical data are used in this activity to identify the types of work environments in which Australian women are to be found.

4. Manomiya: Women Agricultural Workers in the Third World

Participants play the simulation board game *Manomiya* to consider the impact of a western-style development project on a group of African women farmers.

5. Women Industrial and Service Workers in the Third World

This activity uses case studies of women workers in the Third World to examine the implications of western-style development practices for them and their environments.

6. Women's Environmental Activism

Four case studies of women's environmental activism are used in this activity to consider the types of issues that women are concerned about and the range of strategies they are using to promote change.

7. Criteria for Sustainable Development

In this activity, participants develop a set of criteria which will promote sustainable development for women and their environments.

8. Curriculum Applications

Participants identify where the themes explored in this workshop can be incorporated into the syllabuses they teach and plan a lesson on one of the themes.

MATERIALS REQUIRED A) PROVIDED

RESOURCES

Resource 1: Angela's Story

Resource 2: Female and Male Environments

Resource 3: Selina's Story

Resource 4: Noi's Story

Resource 5: Cathy's Story

Resource 6: The Chipko Movement

Resource 7: Kenya - Creating Islands of Green

Resource 8: Maria Cherkasova

Resource 9: Michiko Ishimure

B) TO BE OBTAINED

Activity 2: Copies of floor plans of domestic housing are needed for this activity. These can often be found in the advertisements of building companies in weekend newspapers.

Activity 3: Participants will need to be supplied with large sheets of paper and coloured pencils in this activity.

Activity 4: The simulation board game *Manomiya* forms the basis of this activity. It is available from Development Education Centres in each State (see Contact Addresses in manual Introduction). If *Manomiya* cannot be obtained, alternative activities using the video *Man-Made Famine* or the book *Women's Voices* (see below) can be developed.

Activity 7: Participants will need to be supplied with large sheets of paper and coloured pencils in these activities.

Activity 8: This activity requires a selection of relevant syllabuses and lesson plan headings.

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ACKNOWLEDGMENTS

Resource 5 (Cathy's story) and Resource 9 (Michiko Ishimure) are based on information provided by Yayori Matsui. Cathy's story comes from Matsui's *Women's Asia* (pp 50-51) while the details on Michiko Ishimure have been extracted from Matsui's article "Protest and the Japanese women". Resource 6 (The Chipko Movement) comes from Thomas Weber's book *Hugging the Trees* (Penguin, 1989), while Resource 7 was originally published in *Newsweek* magazine (March 9, 1992). Resource 8 (Maria Cherkasova) has been extracted from Ress (1992). Resource 2 comes from Brown and Switzer (1991) and is based on statistics from the ABS and the Bureau of Immigration Research. Resources 1 (Angela's story), 3 (Selina's story) and 4 (Noi's story) were developed by the author for her text, *Women's Voices* (Williamson-Fien 1993).



ACTIVITIES

1. PERSONAL ENVIRONMENTS

This activity asks participants to identify the nature and extent of their own personal environments.

- Ask participants to work in pairs to discuss:
 - the extent to which they have access to their own physical spaces;
 - whether there have been times in their lives when their access to particular physical spaces have been constrained; and
 - the nature of the factors that produced those constraints.
- Invite a number of the participants to share their observations with the rest of the group.
- Use the comments of participants to debrief from the activity ensuring that the constraints associated with age, gender, class and race are thoroughly explored.

2. WOMEN'S DOMESTIC ENVIRONMENTS IN AUSTRALIA

This activity explores women's domestic environments using housing plans and the observations of an Australian women architect.

- Explain to participants that they are going to work in small groups to examine domestic house plans and consider what the construction of physical space in Australian houses might mean for women.
- Form groups of 3-4 participants. Give each group 2-3 floor plans of houses.
- Ask the groups to consider:
 - the arrangement, size and placement of spaces traditionally associated with female labour in the home;
 - the groupings of people that they expect will live in the houses and the activities the plans suggest these people will do in their houses; and
 - the size of the houses and the responsibilities associated with their maintenance.
- Invite each group to share its observations with everyone else.
- Provide each group with Resource 1. Ask them to read the story and consider the extent to which their evaluations of house designs tally with Angela's.
- Discuss with participants:
 - the points on which they agree or disagree with Angela's views on housing design;
 - the extent to which the designs they have examined might be made more women-friendly;
 - what denser suburban settlement might mean for the construction of women's domestic environments; and
 - the extent to which women can control or change the nature of their domestic environments.

3. WOMEN'S WORK ENVIRONMENTS IN AUSTRALIA

In this activity, participants utilise statistical data to identify the types of work environments in which Australian women are found.

- Distribute copies of Resource 2 to participants and ask them to examine it carefully.
- Explain to participants that they are going to work in small groups of 3-4 people and use Resource 2 to develop the main points of a newspaper article on women's work environments.
- Move participants into small groups. Ask them to discuss and decide upon:
 - a "punchy" title for the article; and
 - the four main points they would want to develop in the article.
- Distribute large sheets of paper and coloured pencils to the groups. Ask each group to develop a simple poster which includes the group's proposed title and its four points.
- Invite each group to display its poster and explain to the rest of the participants the significance of its title and the four main points that have been identified as important.
- Discuss with participants:
 - the effectiveness of the titles in attracting attention and identifying the issues;
 - the range of main points that were selected;
 - the extent to which the selection of the main points indicated similarities or differences across the groups and what these similarities or differences might suggest about the nature of women's work environments; and
 - the explanations that might be offered for the positioning of women in particular work environments.

4. MANOMIYA: WOMEN AGRICULTURAL WORKERS IN THE THIRD WORLD

This activity involves participants in a simulation board game which considers the impact of a western-style development project on a group of African women farmers.

- Use the instructions provided with *Manomiya* to take participants through the game.
- Ensure in debriefing from the game that participants have fully explored:
 - the impact of the development project on both sets of farmers; and
 - the gender division of labour in the community and the ways in which the women have been marginalised.
- Note: If *Manomiya* is unavailable, participants could watch the section from the video *Man-Made Famine* (see Additional Reading) on the Kenya women sugar farmer, Dina Mukhwane. They could then discuss the impact of the sugar development project on this woman and the other women farmers in her community. Alternatively, participants could do Activity 3 on women farmers in *Women's Voices* (see Additional Reading).

5. WOMEN INDUSTRIAL AND SERVICE WORKERS IN THE THIRD WORLD

This activity uses case studies of women workers in the Third World to examine the implications of western-style development practices for them and their environments.

- Explain to participants that they are going to work in groups with each group examining a case study of a Third World woman industrial or service worker.
- Move participants into three groups. Provide the first group with copies of Resource 3, the second group with copies of Resource 4 and the third group with copies of Resource 5.
- Ask each group to appoint a spokesperson who will report on the group's findings.
- Ask the groups to consider:
 - how western-style development has changed the nature of the woman's life and work;
 - how the woman feels about the new environment in which she finds herself; and
 - whether the woman will find it easy to return to and fit into her old environment.
- Invite each spokesperson to:
 - outline the story of the woman that his/her group has investigated; and
 - describe the groups findings.
- Discuss with participants:
 - the other types of service and industrial work that Third World women might do;
 - whether women industrial and service workers in Australia are confronted with similar working environments to those experiences by Selina, Noi and Cathy;
 - the range of work environments experienced by Australia's migrant women;
 - how women in other parts of the world might be affected by, or benefit from, the work of Selina, Noi and Cathy; and
 - how they would feel if confronted with the sort of changes to their lives that Selina, Noi and Cathy have faced.

6. WOMEN'S ENVIRONMENTAL ACTIVISM

Four case studies of women's environmental activism are used in this activity to consider the type of issues that women are concerned about and the range of strategies they are using to promote change.

- Divide participants into four groups.
- Explain to participants that each group will be provided with a case study of female environmentalism. Each group will then examine and discuss its case study as preparation for the development and presentation of a short dramatic presentation based on its case study.
- Provide the first group with Resource 6, the second group with Resource 7, the third group with Resource 8 and the fourth group with Resource 9.

- Indicate to the groups that in thinking about their presentation they should consider:
 - the issues that concern the women or woman;
 - the types of strategies that the women or woman adopt to promote change; and
 - the extent to which those strategies prove successful.
- Ask each group to give its presentation.
- Discuss with participants:
 - the range of issues concerning the women in the case studies;
 - the range of strategies the women had taken;
 - the extent to which the women concerned have been able to effect the changes they desired; and
 - what actions participants might want to take to support the women in the case studies.

7. CRITERIA FOR SUSTAINABLE DEVELOPMENT

In this activity, participants develop a set of criteria which will promote sustainable development for women and their environments.

- Explain to participants that in this activity they are going to identify ten criteria which, if followed, would provide the basis of sustainable development for women and their environments. The ten criteria will form a code which can be presented to a range of individuals and groups.
- Discuss with participants the nature of sustainable development. In considering this question refer participants back to some of the issues they have already discussed, including:
 - the nature of western-style housing and work;
 - the impacts of western-style development on Third World women; and
 - the issues that concern women environmental activists and the strategies they adopt.
- As a whole group identify a working definition of sustainable development.
- Ask participants to work in pairs to reflect on earlier activities in order to identify *three* criteria which will promote sustainable development for women and their environments.
- Invite pairs to indicate their three criteria and use the blackboard to list all the possible criteria.
- Explain to participants that the maximum number of criteria needed is ten.
- Discuss with participants which ten criteria they would all be happy with. In deciding on a final set of criteria remind participants of the working definition they constructed of sustainable development.
- When participants have agreed on ten criteria, invite suggestions from participants about which individuals and groups should receive copies of their new ten criteria code.
- Suggest to participants that it is up to them to follow through and deliver the ten criteria to those individuals and groups that have been identified.

8. CURRICULUM APPLICATIONS

In this activity, participants identify where the themes explored in this workshop can be incorporated into the syllabuses they teach, and then plan a lesson on one of the themes appropriate to a subject and class they teach.

A. Syllabus fit

Participants may require copies of relevant syllabus documents for this activity.

- Work in pairs to identify (i) a subject or syllabus, (ii) a year or grade level, and (iii) a syllabus topic where the following seven themes covered in this workshop could be taught:
 - Personal environments
 - Women's domestic environments in Australia
 - Women's work environments in Australia
 - Women agricultural workers in the Third World
 - Women industrial and service workers in the Third World
 - Women's environmental activism
 - Criteria for sustainable development
- Note to facilitators: This activity need not be cross-curricular but could be done for a single school subject or syllabus with participants asked to identify (i) the year or grade level, and (ii) the syllabus topic only.

B. Lesson planning

Ask participants to select one of the seven activities in this workshop and to adapt it to plan a lesson on it suitable for a subject/class they teach. Provide participants with a range of suitable lesson plan headings, for example:

- Subject and grade level
- Lesson topic
- Place in syllabus
- Lesson overview
- Key idea(s) to be taught
- Objectives
- Resources
- Lesson introduction
- Steps in lesson
- Lesson conclusion
- Lesson timing
- Self-evaluation strategy.

RESOURCE 1

ANGELA'S STORY

Angela is a qualified architect and works with a firm of architects in central Brisbane. She lives reasonably close to her work place in a modest, but restored, 1880 worker's cottage that she obtained on a mortgage last year.

Angela is a single woman, in her late 30s. She enjoys her work and is making what she describes "as a comfortable living". She argues that there are certain frustrations associated with her profession, however. One concern is the unspoken assumption that, as a woman, it is more appropriate for her to be involved in the design of domestic housing rather than have her expertise directed towards commercial or public buildings.

However, for the most part, Angela is happy to be concerned with domestic architectural design. She has always felt, for example, that conventional building plans for kitchens and laundries - areas traditionally associated with female domestic activity - are poor.

These rooms may be located in parts of the house which experience extremes of temperature, for example, and this is crazy because they are areas in which women, traditionally, do a lot of work. They are often relatively small, too, which discourages family participation in kitchen and laundry activities and suggests that they are places where women are expected to work alone.

In contrast, Angela notes, the parts of the house associated with leisure and recreation, the games room, the bar, the sitting room - even the barbeque area - get prime locations and are often more spacious. "Interestingly", Angela says, "these areas are frequently associated with male activities or male control, except of course when it comes to cleaning them!" Angela enjoys talking with her clients about these issues. "It can be exciting to design homes that challenge some of the gender-based assumptions about life and work in the home" she says.

Angela also has concerns about the trend towards bigger and bigger houses in some parts of Australia.

Some of these palatial homes built for the wealthier end of the market at places like the Gold Coast make no sense at all. After all, fewer and fewer Australians are living in the sort of nuclear family that requires that amount of space and if you think about it, it is absurd to have homes with three to four bathrooms when

people in other parts of the world are lucky to have a tap in their street. No, I think we need to promote denser settlement of the near city area, with people living closer to their work places and to the facilities they need. This means returning to smaller, more compact homes although, of course, these sort of projects should not be developed without respect for the existing, established communities.

Although she enjoys designing homes and considering the implications for women, Angela thinks that women architects should be more influential in the design of bigger commercial, government and public buildings. As she says:

Government offices and inner-city buildings generally house the sort of services that employ vast numbers of women in clerical, secretarial, retail and even cleaning jobs. Part of the frustration of women in the city is that they are living and working within the constraints of a man-made environment. For example, it has only been in the last few years that the operators of some car parking stations have provided special places for women with babies or small children.

But despite some improvements that make the city more "woman-friendly", there are other questions about the use of urban space which need confronting, Angela believes.

For example, why is it that the women's toilets and "mothers' rooms" are frequently found in the most inaccessible place in the big, department stores? Why are secretaries expected to work in small, public areas while their bosses sit behind big desks in enclosed offices? Why are there never enough toilets for women in theatres and concert halls so that we always have to queue?

Of course, some of these questions might seem rather trivial in view of the bigger issues associated with the life and death struggles of women elsewhere, but, I think, they do point to broader underlying questions about the nature of women's environments and about the control women have over them. Development for women must address these underlying questions.

Source: Williamson-Fien, J. (1993) *Women's Voices*, Global Learning Centre, Windsor, pp. 18-19.



RESOURCE 2

FEMALE AND MALE ENVIRONMENTS, AUSTRALIA 1989-1990

	Female (%)	Male (%)
General Population		
Total (17 086 000 persons)	50.1	49.9
Heads of lone parent households (8% of total)	87	13
Paid Labour Force		
Total numbers	41	59
Full-time workers	33	67
Part-time workers	77	23
Unpaid Labour Force		
Total numbers	70	30
Volunteers	67	33
Employed at home	70	30
Home duties/child care	96	4
Occupation and Industry		
Industry Health	76	24
Education	64	36
Construction	14	86
Mining	10	90
Occupation Clerk	78	22
Salesperson	64	36
Professional	40	60
Managers and Administrators	23	77
Trade Union Membership	37	63
Without post-school qualifications	44	56
With post-school qualifications	37	63
Trade qualification	7	93
Diploma / Certificate	62	38
Degree	36	64
Income		
Full-time adult average weekly ordinary time earnings	\$488	\$589
All employees average weekly total earnings	\$374	\$574
Lone parent households average weekly income	\$237	\$358
Average weekly hours worked	31 hrs	41 hrs

Source: Brown, V.A. and Switzer, M.A. (1991) *Engendering the Debate*, Office of the Status of Women, Canberra.



RESOURCE 3

SELINA'S STORY

Selina is a twenty year old Malaysian women. Like many women of her age and background, Selina left her rural home to find factory work in one of Malaysia's export processing zones. Selina is employed by a U.S. owned electronics firm which manufactures and tests silicon micro-chips in a factory in Penang.

The Malaysian Government has promoted an export-oriented, manufacturing sector as the means to achieve economic growth and export processing zones, or free trade zones, were established by the government to promote this form of development. In these zones, foreign companies are provided with infrastructure services and land for factories. The main attractions for foreign investors, however, are tax incentives, e.g. tax holidays, and the availability of a cheap, non-unionised female labour force. Selina became one of the workers in this system.

Selina says:

When I started work with this company, I was put in the official test section where I had to look through a microscope to test the chips before they were bonded. It took me two weeks to get used to using the microscope. After the training period they set my quota at 15 trays a day. I think there are between 160 - 180 chips in each tray, so I tested about 3,500 chips a day.

At the moment my current shift starts at 6 am. It finishes at 2 pm. They don't allow us to talk during our work, but we can talk during our breaks. We have a 10 minute break at 8 am and a 15 minute "lunch" break at 9.15 am.

Every two weeks they rotate our shifts. They seem to think we like this to happen, but it really makes life very difficult especially for those women who have children. Next week, I will start work at 2 pm and work through to 10 pm. It's difficult to readjust our sleeping and eating patterns and it makes it impossible for us to find additional work or study in our off-duty hours. I think they want to keep us dependent on them.

I earn the equivalent of about A\$200 per month and I try to send as much of it as possible to my parents and five sisters at home. But I do have rent, food and transport costs. Also, my friends and I like to get dressed up in Western clothes, put on make-up and go out on dates. We

would all like to find husbands here because, although we miss our families, it will be hard for us to return home and marry the men our parents have picked for us.

My parents are devout Muslims and they see my time here as temporary. To them, I am helping to support the family until I return home to marry. Then, maybe, one of my other sisters will come to work here.

But I quite like the freedom I have here and the Western lifestyle the company promotes. For example, each year the company runs a beauty contest which we are encouraged to enter. The first prize is a package tour to Medan (our nearest big city); second prize is a cassette player and third prize a night for two at the Rasa Sayang - the most expensive hotel in Penang. My mother would be horrified if she knew about third prize. "What would a good Muslim girl be doing at the Rasa Sayang for the night?" she would ask.

Anyway, I will not be winning anything. Many of the girls call me "Grandma" because working with the microscope has made my eyes bad and I have to wear glasses. Many of the workers here wear glasses. A number of us would like to do something about the conditions in the factory. Apart from eye strain, there are chemicals in the factory which burn if they are spilt. The company is opposed to us forming a union. They would sack us if they thought we were doing that. They prefer us to compete with each other rather than stand together.

We know that our company is American because Americans come to the factory sometimes and explain to us that the microchips are shipped to the U.S. when we have finished with them. I often wonder if there are women in the U.S. doing the same sort of work as me and, if so, what their conditions and pay are like.

(Adapted from: Grossman, R. (1985) "Miss Micro", *New Internationalist*, No. 150, August, pp.12 - 13; Matsui, Y. (1987) *Women's Asia*, Zed Press, London, p. 33 - 40; "Sunam", *Hard Labour*, Australia Asia Workers Links, Melbourne, 1992, p. 30.)

Source: Williamson-Fien, J. (1993) *Women's Voices*, Global Learning Centre, Windsor, pp. 62-63.

RESOURCE 4

Noi's STORY

Noi is Thai. She comes from a poor province in northern Thailand but currently she is working in one of the Bangkok bars that "service" foreign male tourists.

Noi says:

My parents are still in northern Thailand. My father works in an auto repair shop. With his salary he had to feed his 10 children. Because of this I could only go to fourth grade, so I only have basic skills in writing and reading.

For many years I didn't have any work and so I helped out in the house. Then a friend convinced me to come to Bangkok. When I arrived at the bus station in Bangkok, I was very confused, I didn't know where to begin to look for a job. At the bus station I met a lady who told me that she was there to recruit girls to work as waitresses. I went with the woman, stayed in her hostel and started work as a waitress.

I soon discovered that I could not earn enough as a waitress to pay for my room at the hostel. Soaporn, the hostel owner, suggested that she would introduce me to some men, tourists, and that part of the fee she charged would go to pay off my debts. I have since learned that Soaporn charged quite a high fee to my first customer - a virgin fee. I was only 17 at the time and I saw none of that money.

Since those days I have graduated to the bar business. The bar where I work is owned by Soaporn, her brother and a foreign businessman so we get many foreign men coming here to find girls and have a holiday. Unfortunately, because these men are on vacation they expect to be able to do exactly as they please. I sometimes wonder if they would do these things at home.

My bar work consists of dancing along side the other girls on a platform. At first I was very shy but I am used to it now. We all have numbers and if a customer wants to meet one of us he tells the bar manager and after our dance routine is over we are assigned to our customers.

I hate my work but I have little choice. I make enough to live on, approximately A\$230 per month, but I'm still repaying my debt and a large part of what we earn

at the bar goes to the bar owners. My only alternative would be to try and find alternative work on the streets, but I would not have the same protection as I do in the bar and I'm fearful of the actions the bar owners might take if I leave before paying off my debt. I have not been able to send money to my parents, which was one of the reasons for coming to Bangkok. My parents don't know anything about my work. I don't know what they would say if they found out.

I don't know what the future holds. I try not to think about it. But in a few years, I won't be earning what I am now. Disease is always a concern. At the moment AIDS is the main concern. We are tested every two months for AIDS and so far I'm alright. I have heard that there a large number of girls who have tested positive but I haven't seen a lot of sick people. Perhaps the sick ones are thrown out onto the streets and they have to return their villages. We are warned to always use condoms but it's not always easy to talk about them when you are trying to be pleasing and earn some money.

Like many of the other women here, I dream of finding a way out of this business. Perhaps a rich foreigner will come and pay my debts, even marry me and take me away from here. But what would he know about me, about my culture, about my home? Some girls I know have had their names place on marriage lists at agencies that provide brides for foreign men. One of my friends went off to West Germany, to marry an old man she didn't know. She was a committed Buddhist and she spoke no words of German. I don't know how she is managing, I have not heard from her since she left. I think I would prefer to stay here, but I don't know what I'll do.

(Adapted from Lenze, I. (1978) "Tourism Prostitution in Asia", *Isis*, No. 13, 6-7; O'Grady, R. (1981) *Third World Stopover*, World Council of Churches, Geneva; "The Time Bomb of AIDS in Thailand", *Background Briefing* (Summer Season), A.B.C. Radio National, Jan. 10, 1993).

Source: Williamson-Fien, J. (1993) *Women's Voices*, Global Learning Centre, Windsor, pp. 56-57.

RESOURCE 5

CATHY'S STORY

In one of the wealthiest residential areas on the east coast of Singapore, a thirty-two-year-old Filipino named Cathy works as a maid. She is a short, brown-skinned woman wearing a T-shirt and jeans. In the quiet late afternoon she sits on the veranda of the apartment where she is slowing rocking a sleeping baby in a hammock. The baby wakes and is fretful; Cathy takes her up in her arms and kisses her cheek. "Shizu is such a darling that I forget I'm homesick," she says with a warm smile. Her English is very good even though she speaks with a strong Filipino accent. Cathy begins to talk about herself. A typical Filipino woman, she is friendly and frank.

Four-months-old Shizu is the daughter of a Japanese businessman who employs Cathy, and his American wife who is working on behalf of refugees. "When I am looking at Shizu she reminds me of my own four children left behind in my home country" said Cathy.

Why did the mother of four children have to leave them and come to Singapore to work? Cathy was born in Visayas, in the central part of the Philippines, one of the most economically depressed areas. Her father is a primary school teacher, and her mother works for the local government. Cathy went to college and studied to become a laboratory technician but, even with her training, it was difficult to get a job because the Philippines is full of unemployed people. Finally, she was hired to work in a nature conservation bureau, but her salary was very low.

She married a local government official, but her husband was also poorly paid and even though they were both working, it was difficult to raise four children. This is why Cathy began to consider going abroad as migrant worker. Her sisters-in-law were already working in Singapore as maids. "I heard that women who had migrated to Saudi Arabia had dreadful experiences, so I chose Singapore as I was told it was a safe place to work." Cathy's father was opposed to her plan to work overseas. "He felt that it was a pity that a college graduate had to become a maid", Cathy says. Nevertheless, Cathy was determined to go. She applied to an overseas employment agency and for permission to leave the country.

Cathy's first job in Singapore made her very unhappy. Her employer was Chinese. She was unable to communicate

with the family and was badly mistreated. Eventually she ran away but, because she had failed to fulfil the terms of her two year contract, she was forced to return to the Philippines.

Fortunately, before she left she was introduced to her present employer and, after spending some time at home returned to Singapore to begin working for this new family. "The wife of my present employer is very warm and kind; I'm very lucky," Cathy smiled. She earns Singapore \$300 and \$50 allowance each month (approximately \$A320) which is the average pay for domestic helpers here. Sunday is her day off.

On Sunday I go to mass in the morning, and then to the Botanical Garden. This is the meeting place for the Filipinos and I can see my sister-in-law, cousins, and friends.

On Sundays the Botanical Garden in Singapore is crowded with Filipino women; they have lunch together, and sing and play guitars. It is really a holiday scene where the maids from the Philippines can rest and enjoy themselves. For Cathy, it is also a time for meeting with her relatives; her aunt, who was a teacher for many years, and six other family members are working in Singapore. They get together to forget the loneliness of living in a foreign country. Cathy usually leaves early to have time to write letters to her family.

Even on a working day, after I finish my job, I write letters to my children about school, study, play, behaviour, and such ordinary things. It is quite natural for a mother to be concerned about these issues. Fortunately, my mother-in-law is taking good care of them. My elder sons go to school and make very good marks. I am encouraged.

This mother of three sons, aged ten, eight, and seven, and a three-year-old daughter, is concerned about her children all the time. She carries their photographs with her everywhere she goes.

When I left home, my children saw me off and all of them were crying. It was very, very hard when my daughter, Sherila, cried, 'Mummy, don't go' and clung tightly to me. When some friend is going home I always send toys to my children.



Cathy weeps, but she adds:

Without education you cannot get out of poverty. I'm working hard now not only to earn my living, but also to save for the children's education so that they can grow up to be good citizens. My husband has recently written to me saying that he also wants to migrate to work in the Middle East. I have made up my mind to continue working here for another two years after this contract is up. Both of us are ready to sacrifice ourselves for the future of our children.

A college graduate mother has to bring up someone else's child far away from her own, and her husband is also planning to leave the family to work elsewhere. Such a case, where family members are living and working in different places, is not at all exceptional in the Philippines. More than one million Filipinos are working abroad. Men go to Middle Eastern countries as construction workers and women go all over the world as maids. More than 7,000-8,000 Filipinos, like Cathy, are working as domestics in Singapore. In 1988, more than 30,000 Filipino women were working as maids in Hong Kong.

(Adapted from Matsui, Y. (1987) *Women's Asia*, Zed Press, London, pp. 50-51)

Source: Williamson-Fien, J. (1993) *Women's Voices*, Global Learning Centre, Windsor, pp. 20-21

RESOURCE 6

THE CHIPKO MOVEMENT

India's hill forests are a critical resource, not only for the women who utilise them for gathering food, fuel and fodder but as a watershed, regulating water flow to the valleys below. Commercial logging in the Garhwel Himilaya region led to landslides and disastrous floods. In the 1970s local resistance to forest destruction gathered pace in the form of the Chipko movement ('Chipko' means to hug). In 1974, hundreds of women from the Chamoli District in Uttar Pradesh pledged to save the trees at the cost of their own lives if necessary. When the loggers arrived the women went into the forests and put

their arms around the trees, telling the loggers that they would not be able to cut the trees before first killing them. The contractors withdrew and the forest was reprieved. The Chipko movement spread and many villagers began to guard the forests, fast for them and hug the trees to prevent them being felled. When forest officers accused the women of being foolish, saying "Do you not know what the forests bear? Resin, timber and foreign exchange", the women replied. "What do the forests bear? Soil, water and pure air! Soil, water and pure air are the very basis of life!"

Source: Weber, T. (1989) *Hugging the Trees*, Penguin, Hammondsworth.



RESOURCE 7

KENYA: CREATING ISLANDS OF GREEN

When Sophia Kiarie moved from Kenya's forested highlands to the arid community of Ruiru 20 years ago, she was immediately struck by the lack of greenery. She looked out over the parched sisal fields and wondered where she could possibly find enough firewood for her family, including her husband and 11 children. So she began studying informally, asking Kenya foresters their advice and carefully observing the life cycles of different trees. "Some died of drought", she recalls, poking a finger into the soft Kenyan soil. "Others died when the hard rains came."

Though she never took a class in forestry or botany, Kiarie, 41, learned quickly. "I have a degree in understanding the problems of my area", she says with a knowing smile. She became a local field officer for the Geneva-based Bellerive Foundation, a non-profit organization that focuses on environmental issues. That woke her up to the dangers of land degradation around Ruiru, about 20 kilometers north of Nairobi. Soon she opened a tree nursery, which has so far distributed more than 500,000 seedlings to schools, hospitals and individual farmers. In

addition, Kiarie has led a successful campaign to conserve trees by promoting an energy efficient, low-cost stove designed by engineers from the Bellerive Foundation. The stove, which burns far less wood than the traditional stone-bordered fire, has become a local hit; more than 2,000 Kenyan families and 600 institutions now use one. "I can convince people because I am a beneficiary of the product", says Kiarie. "It's easier to convince people when they can identify with you."

Kiarie is not just a local hero. Last November she was invited to Miami to attend the United Nations-sponsored Global assembly on women and the Environment, where she spoke about her crusade to establish scores of "green islands" - plots of trees - around government institutions. Kiarie believes women are the key to a healthier future for Kenya and hopes to get more of them involved in her reforestation projects. "Women know how to nurse", she says, gently tucking a tiny sprout into the earth. "They have caring hands."

Source: *Newsweek*, March 9, 1992.

RESOURCE 8

MARIA CHERKASOVA

In the Soviet Union, in 1986, the Ministry of Energy and local authorities decided to build a huge, 200 metre high electric dam on the Katrun River in the Altai Mountains. They hadn't counted on Maria Cherkasova, a biologist and journalist. When she realised that the dam would flood a beautiful historic wilderness, destroy wildlife, erode fertile land and, by leaching mercury and other toxic substances out of the rocks, pollute the drinking water for millions of people, she spread the word, and small, militant committees for the Salvation of the Katrun River were created in six cities. They soon won the support of thousands of citizens who started protest marches, signed mass petitions and organised meetings and letter-writing campaigns. Construction on the dam

has been halted - at least for the moment.

Other consequences of the campaign are just as important. It raised nationwide Soviet consciousness about environmental issues, taught those involved a lot about environmental activism and led to the creation of an umbrella organisation of 200 Soviet environmental groups, the Socio-Ecological Union, under Maria Cherkasova's leadership. The Union established contacts with international organisations and has gone on to lead a wide range of successful environmental campaigns and activities.

Source: Ress, P. (1992) Women's success in environmental management, *Our Planet*, 4(1), 16-17.



RESOURCE 9

MICHIKO ISHIMURE

Towards the end of the 1950s, the people in a small fishing village on Minamata Bay in Kyushu, Japan, began to suffer from a terrible disease.

Their limbs were paralysed, their lips unmovable; and they cried aloud like dogs howling in madness. Japanese scientists discovered that this strange disease was caused by waste from Chisso Corporation's plant, located in Minamata City, which had polluted not only the coastal waters but also the fish and the shellfish.

There was one women visitor to this fishing village who made calls on these God-forsaken victims. She was Ishimure Michiko, a poet and housewife. She kept records of all she saw and heard during her visits to the victims. Among those upon whom she called were a blind boy who could not talk but fumbled for a baseball bat with which to hit at stones; a fisherman's wife who, longing to live a health life once more and to go fishing with her husband, died in convulsive agony; a beautiful little girl who lived a death-like life; and an old man who died in madness, rending the wall and hitting his head

against the head-board of his bed. In profound sympathy, understanding and anguish, Ishimure Michiko wrote her documentary account in 1969, Kugai Jodo (Pure Land Poisoned Sea), which was subtitled "Our Minamata Disease." This documentary brought vividly to the attention of the Japanese people the true results of industrialisation, and an enormous reaction ensued. The book openly and effectively questioned the "productivity-first and profit-first" attitude of industrialised Japan.

Ishimure Michiko herself organised a civic group to assist victims of Minamata Disease and launched a movement to secure adequate compensation for them from Chisso Corporation.

(N.B. This extract uses the Japanese convention of putting the family name first and the personal name second.)

Source: Matsai, Y. (1975) Protest and the Japanese women. *Japan Quarterly*, 22(1), 31-32.

the **POPULATION- FOOD DEBATE**

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INTRODUCTION

Two issues about development that always draw attention are population and food. Usually, these are considered together to produce notions of the problems of "over-population" and "the starving millions". Such notions are Western constructions and do not reflect the perspectives of Third World people on their situation nor do they take account of the processes that cause unequal development in the world. This workshop seeks to address misconceptions about food supply and population levels that result from these notions.

OUTCOMES

As a result of completing this workshop, participants should be able to:

- distinguish between the symptoms and the root causes of hunger and population pressure on food resources;
- present arguments that counter many misconceptions about hunger and population;
- empathise with the Third World perspective on these issues; and
- appreciate the issues and dilemmas in teaching about these issues.

WORKSHOP OVERVIEW

The workshop contains seven activities.

1. Setting the Scene

Two introductory activities focus on the presentation of food and population issues and the reasons for, and problems in, teaching about these issues.

2. True or False?

This activity allows participants to express their views on statements about the causes of food shortages, hunger and famine and to consider possible solutions.



3. Editing the News

Participants work on editing a newspaper story that explores the scope of the world food crisis and some reasons behind it.

4. World Hunger: Ten Myths

Building on ideas developed in previous activities, participants critically examine myths about hunger and population.

5. Exploring Famine

A mini-lecture based upon a case study of the causes of the Sahelian famine of 1968-1974, followed by a discussion of parallels to present day famines and their causes.

6. Food First Fundamentals

Participants match up the myths encountered in Activity 4 with positive principles, or Food First Fundamentals, developed by Lappe and Collins (1982).

7. Curriculum Applications

An activity in which participants evaluate a teaching activity on the global food system and suggest adaptations to their area of teaching.

MATERIALS REQUIRED A) PROVIDED

OVERHEAD TRANSPARENCY MASTERS

OHT 1: Headlines from History

OHT 2: Population Views

OHT 3: Population - Whose Problem?

OHT 4: Drought in the Sahel - Map

OHT 5: Drought in the Sahel - Quotation

OHT 6: Classquake in Guatemala

RESOURCES

Resource 1: Views on Population and Hunger

Resource 2: Editing the News

Resource 3: Myths - True or False?

Resource 4: Exposing the Myths

Resource 5: The Causes of Drought and Famine in the Sahel

Resource 6: Ten Food First Fundamentals

Resource 7: Global Food Connections

READINGS

Reading 1: The Political Economy of Famine

B) TO BE OBTAINED

Activity 5: Resource 5 needs to be copied several times, cut up into slips of paper, and placed in an envelope. It is necessary to have one such envelope for each group of 4-5 participants.

ADDITIONAL READING

- Abraham, J. (1991) *Food and Development: The Political Economy of Hunger and the Modern Diet*, WWF and Kogan Page, London.
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ACKNOWLEDGEMENTS

The activities on hunger myths, Food First Fundamentals and the Sahelian drought in this workshop are based upon curriculum materials developed by the author for the UK Schools Council Geography 16-19 Project. They include: *Alternative Approaches to Development* (1985) and *Studying Natural Hazards* (1986) both published by Longman. The activity on global food connections is based upon an activity first developed by Ros Hall and published in J. Fien, ed. (1989) *Living in a Global Environment*, AGTA Inc. and New Internationalist, Brisbane, Ch. 3.



ACTIVITIES

1. SETTING THE SCENE

This activity focuses on participants' perspectives of the issues involved in teaching about population and food issues.

A. Introduction

- Display OHT 1 which depicts a series of international newspaper headlines on population and food issues from a decade or more ago.

Ask participants to comment on whether or not - and how and why - the headlines on these issues are similar today.

- Display OHT 2 which illustrates a range of views on the causes and effects of population issues. Indicate the controversial and contested nature of most of the views.

B. Teaching Issues

- Number participants alternately "A" and "B". Individually, "A" participants are to make a list of reasons for teaching about population and food issues. Individually, "B" participants are to make a list of dilemmas or problems in teaching about population and food issues.
- Group participants into pairs of "A"s and pairs of "B"s. Each pair is to pool its lists and decide on a combined list of its three best points.
- Form groups made up of a pair of "A"s and a pair of "B"s. The two pairs share their respective views on the reasons for teaching about population and food issues and the dilemmas or problems they might face.
- The members of each group write a paragraph to synthesise the views of each pair into a combined group view.

2. TRUE OR FALSE?

This activity allows participants to express their views on ten statements about the causes of food shortages, hunger and famine in parts of the Third World and about possible solutions.

- Distribute a copy of Resource 1 to each participant.
- Ask participants to indicate on the sheet whether they believe each statement to be True or False and to give one fact they know to support their opinions.
- When this is completed, tell participants to put their completed worksheets aside to use later in the workshop.

3. EDITING THE NEWS

This activity helps participants explore the scope of the world food crisis and some reasons behind it. Participants take on the role of a newspaper editor preparing a story on "The World Food Crisis Bites" for publication. Participants may work individually or in pairs. The instructions for this activity are on Resource 2.

- Distribute a copy of Resource 2 to all participants. Read through the instructions to ensure participants understand the activity.
- After the questions are completed, hear a range of answers paying most attention to the variety of perspectives given to Question 4 on the root causes of hunger.

- Remind participants that the Simmons' article is more than a decade old. Ask them to make a list of the examples that Simmons could use if he were writing the story today.
- Conduct a discussion on how similar or different the main message of the news report would be today.
- Display the cartoon, "Population: Whose Problem" on OHT 3. Ask participants to read it carefully. Explain that it expresses Simmon's views on the root cause of hunger in cartoon form.
- Explain that many Third World people think that a major cause of hunger in their countries is overconsumption of resources in the developed countries. In terms of food resources, the richest quarter of the world's population eat two-thirds of the world's food production. Their animals eat fully one third of all of the grain produced in the world. A growing awareness of this situation has given rise to the idea that the "population problem" is really a "resource problem", or to put it another way, the "population problem" has proved to be a "population myth".

4. WORLD HUNGER: TEN MYTHS

This activity builds on the notion of "myths" developed above. It is based upon Lappé and Collins' critique of ten of the myths about hunger and population in their books, *Food First: Beyond the Myth of Scarcity* and *World Hunger: Twelve Myths*.

- Ask participants to return to their copies of Resource 1.
- Explain that Lappé and Collins believe that the correct answer to all ten statements is False.
- Ask participants to identify where they agreed or disagreed with Lappé and Collins. Ask for their perceptions and feelings about Lappé and Collins' assertions.
- Distribute a copy of Resource 3 to all participants. Ask them to complete Column 1 only. This requires them to make a list of the "myths" they believed to be true.
- Distribute a copy of Resource 4 to all participants. This provides Lappé and Collins arguments for claiming each of the statements as myths. Ask participants to read only those sections of Resource 4 that relate to statements they believe are true.
- After reading Lappé and Collins's explanations, participants are given the chance to change their minds on any of the statements.
- Ask them to enter their "second opinion" about them in the second column of Resource 3. In the third column, ask them to list the reasons for their second opinion. For example, if they now agree that a statement is a myth they list the Lappé and Collins points that convinced them of this. For statements they still believe to be true and not myths at all, they should list their points of disagreement with Lappé and Collins.
- Participants next examine the parts of Resource 4 that relate to points on which they agree with Lappé and Collins. Ask them to gather data from Resource 4 in support of the statements they believe are true, and enter this data at the appropriate points on their copies of Resource 1.



5. EXPLORING FAMINE

The previous activities have provided an explanation of global patterns of malnutrition and hunger based upon a political economy perspective. This same type of perspective helps explain why drought and other supposedly "natural disasters" lead to periodic famine, sometimes on a sub-continental scale. This activity is a case study of the causes of the great Sahelian famine of 1968-1974. Participants are then asked to draw parallels to present day famines and their causes.

Mini-lecture

- Use the map in OHT 4 and the material in Reading 1 to present a brief background to the 1968-1974 Sahelian famine.
- Display the quotation by a Sahelian farmer in OHT 3 to conclude the mini-lecture. Ask participants to explain what they believe the farmer is saying about the inevitability of the link between drought and famine.
- OHT 6 provides a similar perspective on "natural" disasters. Display OHT 6 and ask participants to explain why Guatemalan people considered the 1976 earthquake to be a "classquake".
- Form groups of 4-5 participants. Give each group one of the envelopes containing the cut-up slips made from copies of Resource 5. Explain that the envelope contains a summary of some of the historical and political factors that turned the Sahelian drought into a famine.
- The groups have to read the slips of paper and give each one a heading or title. They then arrange them into a logical sequence to form a coherent explanation of the Sahelian famine.
- Groups report the "slip titles" and the chosen sequence to each other.
- Ask participants to discuss and explain whether a similar style of explanation could be made of the social context of such "natural" disasters as the 1983-1986 Ethiopian famine, flooding in Bangladesh, or the Somalian famine of the early 1990s.

6. FOOD FIRST FUNDAMENTALS

Lappé and Collins believe that one solution to world hunger lies in identifying a number of *Food First Fundamentals* or principles. They argued that these principles can provide the basis for agricultural development policies that will guarantee an adequate and nutritional diet for *everyone* in Third World countries.

Lappé and Collins found their Food First Fundamentals by studying the ten myths of world hunger (Resource 1) and their answers to them (Resource 4). From that study emerged ten positive principles for Third World agriculture. For example, from the first myth, "People are hungry because of scarcity - both of food and land", they developed the Food First Fundamental: "Every country in the world has the resources necessary for its people to free themselves from hunger".

Resource 6 contains ten of Lappé and Collins's Food First Fundamentals. However, they are not in the same sequence or order as the myths presented in Resource 1. They have been mixed up.

- Ask participants to work in their groups to study Resource 6 and to rearrange the order of Food First Fundamentals so that they can be numbered 1-10 to match the myths numbered 1-10 in Resource 1.

- Ask the groups to select two Food First Fundamentals they believe would be:
 - the easiest to implement in a Third World country;
 - the most difficult to implement in a Third World country;
 - quite beneficial if they were implemented in Australia.
- Note: The correct order of Food First Fundamentals to match the ten myths is:

Myth	1	2	3	4	5	6	7	8	9	10
FFF	A	D	H	F	B	I	J	E	C	G

7. CURRICULUM APPLICATIONS

This activity concludes the workshop. In it participants are asked to evaluate a teaching activity on the global food system and suggest how it may be adapted to their areas of teaching.

- Distribute a copy of Resource 7 to each participant and tell them it was originally developed for Years 9-10 Geography/Social Science students.
- Ask participants to study Resource 7, and:
 - Explain if and how it (a) contradicts or (b) helps explain the Third World perspective on food issues developed in this workshop. Why?
 - Evaluate if the activity is suitable for Years 9-10 Geography/Social Science students.
 - Explain how (a) the diagram and (b) the questions could be altered to make the activity suitable for another Year level and/or subject area.
 - Identify any other problems that they may need to overcome in teaching about global food connections, and how they would handle them.



OHT 1

HEADLINES FROM HISTORY

POPULATION BOMB AND FOOD SHORTAGE: WORLD LOSING FIGHT FOR VITAL BALANCE

New York Times, 14.8.1974

WHY THE POPULATION EXPLOSION IS TOPPING THE AGENDA

Guardian, 18.8.1979

TOO MANY BABIES CLOG INDIA'S DEVELOPMENT

The Times, 4.3.1980

DEVELOPING COUNTRIES: THE PROBLEM THAT WON'T GO AWAY

The Guardian, 21.5.1980

THE WORLD FOOD CRISIS BITES

The Guardian, 11.1.1983

OHT 2

POPULATION VIEWS

IT'S NOT A PROBLEM OF THE NUMBER OF PEOPLE. THE REAL PROBLEM IS THE AVAILABILITY OF WORLD RESOURCES FOR THOSE PEOPLE.

THE WORLD'S POPULATION IS GROWING TOO FAST.

THE QUESTION IS, WHO CONTROLS THE WORLD'S RESOURCES AND WHO USES MOST OF THEM?

UNTIL BOTH WOMEN AND MEN WANT TO HAVE FEWER CHILDREN, BIRTH CONTROL ON ITS OWN WILL NEVER BE SUCCESSFUL.

FOR MANY PEOPLE WHO ARE POOR, CHILDREN ACTUALLY ADD TO THEIR WEALTH AND DO NOT MAKE THEM WORSE OFF.

THE POPULATION CRISIS SHOULD BE SOLVED BY MASSIVE PROGRAMMES OF BIRTH CONTROL.

IF PEOPLE HAD FEWER CHILDREN THEY WOULD BE WEALTHIER. POOR PEOPLE MUST BE STUPID TO HAVE LARGE FAMILIES.

MANY THIRD WORLD COUNTRIES ARE NOT HEAVILY POPULATED. POPULATION DENSITY IN BRITAIN OR THE NETHERLANDS IS COMPARATIVELY HIGH BUT THOSE COUNTRIES CAN COPE.

THE THIRD WORLD IS POOR BECAUSE IT IS OVERPOPULATED AND IT DOESN'T HAVE ENOUGH RESOURCES TO COPE.

THE REASON WHY MANY PEOPLE CHOOSE TO HAVE A LOT OF CHILDREN IS BECAUSE THEY ARE POOR - NOT THE OTHER WAY ROUND.

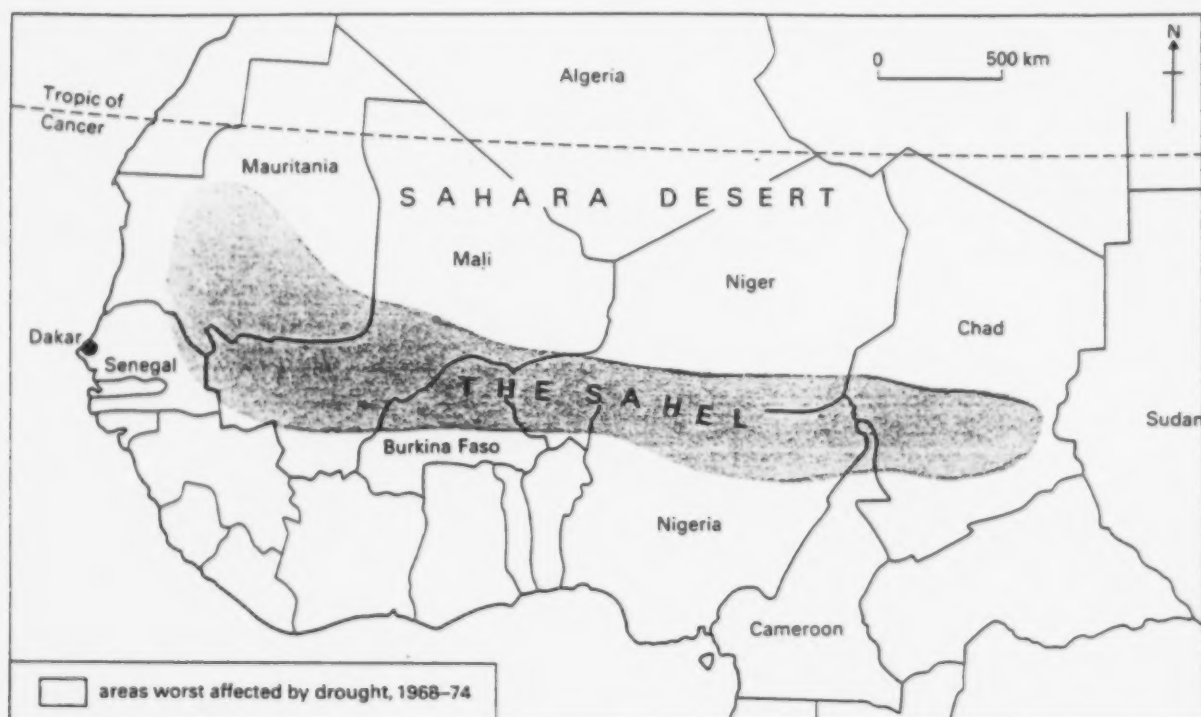
POPULATION — WHOSE PROBLEM?



Illustration: Clive Offley

OHT 4

DROUGHT IN THE SAHEL — MAP





OHT 5

DROUGHT IN THE SAHEL — QUOTATION

A quotation from a farmer interviewed during the drought in 1974:

The last three years could not be like those we talked of (earlier). Why? Because at the present time, provided one has the means, one finds something to eat. There was no food in those previous years, and when those who had gone to look for some returned, there were already some deaths in their family. Today people die of hunger only if they do not have the means.

Question: What is the farmer saying about the inevitability of the link between drought and famine?

OHT 6**CLASSQUAKE IN GUATEMALA**

The Guatemalan peasants who survived the earthquake on 4th February 1976, which killed 22 000 people, injured 74 000 and left over one million of the nation's six million people homeless, do not identify the earthquake as a "natural" event. They call it a "classquake".

Question: What do the Guatemalan people mean by this?



RESOURCE 1

VIEWS ON POPULATION AND HUNGER

1. Next to each statement, tick either TRUE (T), FALSE (F) or NOT SURE (NS).
2. After each statement, write one fact you know which supports your view.

STATEMENT

T F NS

1. Scarcity: People are hungry because of scarcity, both of food and land.

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FACT:

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2. Overpopulation: The world's population is growing rapidly. An exploding population means there is less food for everyone.

--	--	--

FACT:

--

3. Increased production: Hunger will be overcome by concentrating on producing more food.

--	--	--

FACT:

--

4. Large landholders: To achieve food security the hungry world must rely on large landholders.

--	--	--

FACT:

--

5. Food versus environment: We are faced with a tragic trade-off. A needed increase in food production can only come at the expense of the ecological integrity of our food base. Farming must be pushed onto marginal lands at the risk of irreparable erosion. The use of pesticides will have to be increased even if the risks are great.

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FACT:

--



6. **Export agriculture:** An underdeveloped country's best hope for development is to export crops in which it has a natural advantage and to use the earnings to import food and industrial goods.

T F NS

--	--	--

FACT:

--

7. **Rich world versus poor world:** Hunger is a contest with the First World on one side and the Third World on the other. Our standard of living would suffer if we devoted too many of our resources to feed the Third World.

--	--	--

FACT:

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8. **Passive peasants:** Landless rural workers are so oppressed, malnourished and conditioned into a state of dependence that they themselves are beyond the point of being able to mobilise themselves.

--	--	--

FACT:

--

9. **Redistribution:** Hunger can be overcome by redistributing food from areas where there is a surplus to areas where there is a shortage.

--	--	--

FACT:

--

10. **Foreign aid:** To solve the problem of hunger we must increase our foreign aid.

--	--	--

FACT:

--



RESOURCE 2

EDITING THE NEWS

The fight against hunger and poverty grows worse despite the work of more relief agencies than ever before. MICHAEL SIMMONS reports

The world food crisis bites

1
AT THE start of 1983, there are more organisations concerned with world hunger than there have ever been. Yet the number of people dying, or likely to die, from hunger and associated diseases is also higher than ever before – and increasing daily. And the gap between the well-fed and the underfed is growing alarmingly. There is little real prospect, on present trends, of it ever being closed.

In Britain every self-respecting High Street now has its Oxfam shop, a style in patronage inconceivable a few years ago. At national level, there has been a slow but steady proliferation of non-government agencies that care about the world's poor and hungry. Elsewhere in the so-called First World the same trends have been discernible.

The Canadian Agriculture Minister, Eugene Whelan, complained recently that there were now at least 20 UN organisations dealing with food questions. There was more and more duplication of work, he said, and there was overlapping, even competition, among the organisations themselves.

At the last council meeting of the biggest of these organisations, the Food and Agriculture Organisation of the UN, the Indian delegate S. P. Mukerji declared: "I have a feeling that while on the one hand we are increasing the number of resolutions, determinations, pious hopes, the number of organisations at the world level, regional level, country level, at the grassroot level nothing much is done. . . ."

2 Yet, the size of the task is almost too big to grasp. On recent Oxfam estimates, 90,000 people die of starvation or under-nourishment every day – more than one a second, or a Falklands death toll every quarter of an hour. One in four of the world's population – equalling the US, the Soviet Union, Eastern and Western Europe and a few more besides – are not getting enough to eat to meet normal energy requirements.

The problems are usually most acute in those countries where the population is growing fastest. The average sub-Saharan African is now eating measurably less than he was eating 10 years ago but in a large number of African and Asian countries, where the population may well be going up by as much as 3 or 4 per cent a year (meaning that 10 million today equals about 17.3 million in the year 2000), food production is growing, at most, by 2 per cent a year.

It is a situation where the people of Bangladesh may be reassured that they have had one or two good harvests in recent years but family planning remains a central problem and the world market for their jute has virtually evaporated. Nigerians, who are also very fertile, are

spending far more on food than they can afford. And they are only two countries out of more than 30 thought to be in a similar boat. Add to them the millions of refugees, the landless and the otherwise deprived, and the scope of the problem becomes apparent.

At the FAO, they estimate that the world's population in the year 2000 will be well over 6,000 million, and that farm output will therefore have to be more than half as high again as it is now. Demand for food and other farm products will double in the Third World – requiring an input, in money terms, of about \$10,000 million every year. Today, if they are lucky, they are getting less than half that amount.

3 Meanwhile, the numbers of landless poor and urban unemployed are growing daily – another way of saying that poverty is increasing. Third World governments, seduced (for instance) by multinational companies wanting to promote grand agribusiness schemes and large-scale farming, or by varied pressures to spend more than they would like on defence, cannot give priority to the landless and the hungry. Agriculture and food production ministries are rarely

the most important ministries in any government.

The Third World's terms of trade are also deteriorating alarmingly, with overt trends towards protectionism inducing a reaction which is political as much as it is commercial. A ton of tea bought 17 tons of fertiliser ten years ago; today it buys less than half as much. Sugar, coffee, bananas, and a host of other ostensibly life-giving commodities, have gone the same way.

In economic terms, the hungry countries have been deeply affected by the world recession. A reduction in the annual growth rate of the industrial countries of 0.8 per cent will, according to the World Bank, reduce the growth rate of the poorer countries by at least 1.2 per cent. But if population size and growth in relation to the size of the national economy are also taken into account, then the multiplier, which in World Bank terms is only 1.5 to one, leaps staggeringly to nine to one. That is the measure, in statistical terms, of how the poor's development is governed by the rich.

4 At such a scenario of personalities, politics and stark economies, the novelist C. P. Snow would doubtless give a wry smile. Not long before he died, he forecast that the world would be hit by a terrible famine in the Eighties. The rich, he suggested, would sit in their armchairs and watch the hungry and the poor die – on television. Then they would switch off and do nothing. The forecast has a ring of haunting plausibility.

5

INSTRUCTIONS

Imagine you are the newspaper editor to which the article has been sent for final editing prior to publication. Your task is to complete the five marked spaces. The first four are for sub-headings. The fifth is for a key sentence from the article to focus the attention of the reader on the article's theme.

1. Read the newsreport and decide where the following four sub-headings should be placed:
 - (i) My television
 - (ii) Real causes of hunger
 - (iii) Good intentions
 - (iv) Size of the crisis
2. To fill the fifth space, you need to select a couple of phrases or a sentence from the article that will focus the attention of the reader on the theme of the article. You have space for no more than fifteen words. What phrases or sentences from the article would you put in the fifth space? Why?
3. The sentence the real sub-editor chose to fill the fifth space was: "Oxfam: 90,000 people die of starvation or under-nourishment every day."

What do you think was the reasoning behind this choice? Do you think there is a contradiction between the selection of this focus sentence and the theme of the article? Why?
4. What does the author believe is the root cause of the world food crisis? Do you agree? Why?



RESOURCE 3

MYTHS: TRUE OR FALSE?

Myths I thought were true	Second opinion	Reasons for second opinion
	453	



RESOURCE 4

EXPOSING THE MYTHS

For the last several years we have struggled to answer the question 'why hunger?'

Here we want to share the ten myths that have kept us locked into a misunderstanding of the problem as well as the alternative view of the population-food debate that emerged once we began to grasp the issues. Only when this alternative view is accepted will the real causes of hunger be attacked.

Myth one: People are hungry because of scarcity, both of food and land.

Can scarcity seriously be considered the cause of hunger when even in the worst years of famine in the early 1970s there was plenty to go around – enough in grain alone to provide everyone in the world with 3000 to 4000 calories a day, not counting all the beans, root crops, fruits, nuts, vegetables and non-grain-fed meat?

And what of land scarcity?

We looked at the most crowded countries in the world to see if we could find a correlation between population density and hunger. We could not. Bangladesh, for example, has just half the people per cultivated acre that Taiwan has. Yet Taiwan has no starvation while Bangladesh is thought of as the world's worst basketcase. China has twice as many people for each cultivated acre as India. Yet in China people are not hungry.

Finally, when the patterns of what is growing sank in, we simply could no longer subscribe to a 'scarcity' diagnosis of hunger. In Central America and in the Caribbean, where as much as 70 per cent of the children are undernourished, at least half of the agricultural land, and the best land at that, grows crops for export, not food for the local people.

Myth two: There are just too many people in the world. An exploding world population means there is less food for everyone.

If 'too many people' cause hunger, we would expect to find more hungry people in countries with more people per agricultural acre. Yet we could find no such correlation. China, for example, has merely half the cultivated acreage for each person that India has. Yet in only 25 years China has succeeded in eliminating visible malnutrition.

Countries with comparatively large amounts of agricultural land per person have some of the most severe and chronic hunger in the world. While severe hunger is a daily reality for most Bolivians, they live in a country with well over one-half acre of cultivated land per person, significantly more than in France. Brazil has more cultivated acreage per person than the United States. Mexico, where most of the rural

Myth four: To achieve food security the hungry world must rely on large land holders.

We are made to believe that, if we want to eat, we had better rely on the large landowners. Thus governments, international lending agencies and foreign assistance programmes have passed over the small producers, believing that concentrating on the large holders was the quickest road to production gains. A study of 83 countries, revealing that just over 3 per cent of the land holders control about 80 per cent of the farmland, gave us some idea of how many of the world's farmers would be excluded by such a concentration.

Yet a study of Argentina, Brazil, Chile, Colombia, Ecuador and Guatemala found the small farmer to be three to fourteen times more productive per acre than the larger farmer. In Thailand plots of one to two hectares yield almost 60 per cent more rice per acre than farms of 55 hectares or more. Other proof that justice for the small farmer increases production comes from the experience of countries in which the re-distribution of land and other basic agricultural resources like water has resulted in rapid growth in agricultural production: Japan, Taiwan, and China stand out.

We need not romanticise small producers. They get more out of the land precisely because they are desperate to survive on the meagre resources allowed to them. Nevertheless, many believe that our food security is enhanced by entrusting production to large agricultural entrepreneurs. Fewer and fewer rural people are left able to grow or to buy adequate food. Given the widening circle of impoverishment, the national market for food stagnates or even shrinks. But as the domestic market stagnates, toward whom do the agricultural entrepreneurs orient their production? Toward high-paying markets – a few struts of urban dwellers and foreign consumers.

Myth five: We are faced with a tragic trade-off. A needed increase in food production can come only at the expense of the ecological integrity of our food base. Farming must be pushed onto marginal lands at the risk of irreparable erosion. The use of pesticides will have to be increased even if the risks are great.

Haiti offers a shocking picture of environmental destruction. The majority of the peasants ravage the

population suffers from undernourishment, has more cultivated land per person than Cuba, where now virtually no-one is underfed.

Rapid population growth often reflects people's need to have many children in an attempt to provide labourers to increase meagre family income, to provide old age security and to compensate for the high infant death rate, the result of inadequate nutrition and health care. Moreover, high birth rates reflect the social powerlessness of women which is intensified by poverty.

Neither the size of the country's population nor its growth is today the cause of hunger. Both hunger and rapid population growth are symptoms of the same disease – the insecurity and poverty of the majority result from the monopolising of national productive resources by a few.

Myth three: Hunger will be overcome by concentrating on producing more food.

Diagnosing the cause of hunger as scarcity inevitably leads to the conclusion that greater production in itself will solve the problem. Techniques to boost production have thus been the central thrust of the 'war on hunger' for at least 30 years. Governments, international agencies, and multinational corporations have promoted 'modernisation' – large-scale irrigation, chemical fertilisers, pesticides, machinery and the seeds dependent on such inputs – all to make the land produce more. Such farming practices have been labelled the 'green revolution'.

But when a new agricultural technology enters a system shot through with power inequalities, it profits only those who already possess some combination of land, money, 'credit-worthiness' and political influence. This selectivity alone has excluded most of the world's rural population and all the world's hungry.

Moreover, once agriculture is turned into an investment in which control over basic physical resources promises financial success, a catastrophic chain of events is set into motion. A new class of 'farmers' – moneylenders, military officers, bureaucrats, city-based speculators, and foreign corporations – buy up agricultural land. Competition for land sends land values soaring. For instance, land values have jumped three to five times in the 'green revolution' areas of India. Higher rents force tenants and share croppers into the ranks of the landless, who now make up the majority of the rural population in many countries. With their increased profits, the powerful buy out small landholders gone bankrupt. Fewer and fewer people gain control over more and more food-producing resources.

once-green mountain slopes in a desperate effort to grow food. Has food production for Haitians used up every safely cultivated acre so that only the mountain slopes are left? No. These peasants seeking to farm the fragile slopes can only be seen as exiles from their birthright – some of the world's richest agricultural land. The rich valley lands are in the control of a handful of elites (and their American partners) whose concern is not food but dollars to pay for an imported lifestyle. These fertile lands are thus made to produce largely low-nutrition and feed crops (sugar, coffee, cocoa, alfalfa for cattle) exclusively for export.

Still we found ourselves wondering whether people's legitimate need for food might not require injecting ever more pesticides into our environment. With the urgent need to grow more food, won't we have to accept some level of harm from deadly chemicals?

Nearly half the pesticides in the United States are used not on farmland, but on golf courses, parks and lawns. The United States Environmental Protection Agency (EPA) estimates that 30 years ago American farmers used 50 million pounds of pesticides and lost seven per cent of their crop before harvest. Today, farmers use 12 times more pesticides yet the percentage of the crop lost before harvest has almost doubled.

In underdeveloped countries most pesticides are used for export crops, principally cotton, and to a lesser extent for fruits and vegetables grown under plantation conditions for export. The quantities of pesticides injected into the world's environment therefore have little to do with the hungry's food need.

Myth six: An underdeveloped country's best hope for development is to export crops in which it has a natural advantage and to use the earnings to import food and industrial goods.

Since school geography classes where we were taught to identify a country with a single crop, most of us have come to see an underdeveloped country's concentration on one or two export crops as practically God-ordained. In reality, there is nothing 'natural' about the concentration on a few, largely low-nutrition crops. These crops were chosen by the colonial powers solely on the basis of what would bring the greatest profit in the high-paying markets back home. The same land now made to grow cocoa, coffee, rubber, tea, or sugar, could grow an incredible diversity of nutritious crops – grains, high-protein legumes, vegetables, fruits and root crops.

The success of export agriculture can further undermine the position of most of the rural population. For example, an increase in the world price of a crop can actually mean less income for the plantation worker or peasant producer. For instance, when in 1974 the world price of sugar increased several fold, the real wage of a cane cutter in the Dominican Republic actually fell to less than it was 10 years earlier; a nominal increase in a cane cutter's wage did not compensate for the inflation set off by the sugar boom.

Export-oriented agricultural operations invariably import capital-intensive technologies, such as chemical fertilisers and pesticides, to maximise yields as well as to meet the foreign market's 'beauty standards' and processing specifications. Basing an agricultural system on imported technologies helps ensure that whatever is produced will be exported to pay the import bill – a vicious circle of dependency.

Myth seven: Hunger is a contest between the Rich World and the Poor World.

Terms like 'hungry world' and 'poor world' make us think of uniformly hungry masses. They hide the reality of vertically stratified societies in which

hunger afflicts the lower rungs in both so-called developed and underdeveloped countries. Terms like these make hunger into a place – and usually a place over there.

Worse still, the all-inclusiveness of these labels leads us to believe that everyone living in a 'hungry country' has a common interest in eliminating hunger. Thus, we look at an underdeveloped country and assume its government officials represent the hungry majority. We then are tempted to believe that concessions to these governments, eg. lower tariffs on their exports or increased foreign investment, automatically represent progress for the hungry. In fact, the 'progress' may be only for the elites and their partners, multinational corporations.

The hungry in underdeveloped countries and ordinary Europeans and Americans are linked through a common threat: the tightening of control over the most basic human need – food. The very process of increasing concentration of control over land and other productive resources that we have identified as the direct cause of hunger in underdeveloped countries is also going on in our own.

Corporations are busily creating a Global Farm to serve a Global Supermarket, by finding production sites in underdeveloped countries, where land and labour can cost as little as 10 per cent of those in the First World.

Under the banner of food 'interdependence', multinational agribusiness corporations right now are creating a single world agricultural system in which they would exercise integrated control over all stages of production from farm to consumer.

The Global Farm and Supermarket create the type of interdependence no-one needs. 'Interdependence' in a world of extreme power inequalities becomes a smoke-screen for the usurpation of food resources by a few for a few.

Myth eight: Peasants are so oppressed, malnourished and conditioned into a state of dependency that they are beyond the point of being able to mobilise themselves.

Such a view ignores a fundamental reality in every country today. Because of the selective way news is transmitted to us, we are often unaware of the courageous struggle of millions of people everywhere to gain control over food-producing resources rightfully theirs.

So many who question what peasants can do for themselves seem unaware that in countries comprising over 40 per cent of the population of the underdeveloped world, people have, in our lifetimes, freed themselves from hunger through their own efforts. Even during the worst years of the war, the North Vietnamese were improving their agriculture. Yields were going up, and irrigation was extended from 20 per cent of the cultivated area in the mid-fifties to nearly 60 per cent in the mid-sixties. The Chinese people, formerly at the mercy of droughts and floods, have built reservoirs and multiplied their irrigated land through a system based on local self-reliance and local initiative. The Chinese now cultivate one third of all irrigated land in the world. They have doubled their yields of major grains in two decades, despite recurring droughts.

Myth nine: Hunger should be overcome by redistributing food from areas where there is a surplus to areas where there is a shortage.

Over and over again we hear that North America is the world's last remaining breadbasket. Food security is invariably measured in terms of reserves held by the metropolitan countries. We are made to feel the burden of feeding the world is squarely on us. Our over-consumption is tirelessly contrasted with the

deprivation elsewhere with the implicit message being that we cause their hunger. No wonder that North Americans and Europeans feel burdened and thus resentful. 'What did we do to cause their hunger?' they ask with justification.

The problem lies in seeing redistribution as the solution to hunger. We have come to a different understanding.

Distribution of food is but a reflection of the control of the resources that produce food. Who controls the land determines who can grow food, what is grown and where it goes. Who can grow: a few or all who need to? What is grown: luxury non-food or basic staples? Where does it go: to the hungry or the world's well-fed?

Thus redistribution programmes like food aid or food stamps will never solve the problem of hunger. Instead we must face up to the real question: how can people everywhere begin to democratise the control of food resources?

Myth ten: To solve the problem of hunger we must increase our foreign aid.

Many people concerned about hunger focus their energies on increasing our government's foreign aid budget. Such a focus may be both narrow and futile. Narrow because direct economic assistance through aid is only a small fraction of the total economic impact of our government on underdeveloped countries.

On another level, focusing on government aid as a solution to hunger may be futile. No official development assistance programme can address the social and economic causes of hunger because it would, of necessity, both threaten the very elites with whom overall policy must maintain relations and jeopardise the interests of corporations. Aware and well-meaning planners frequently tell us how few their options are, given the fact that policy makers choose not to 'rock the boat'. The best they can do, given the political constraints as well as the limitations of time and money, is to assist a small portion of the smaller landholders with the technical aspects of increasing production.

We fear that, by dealing with symptoms and by being limited by money and time to working with a small number of farmers in any one country, aid programmes help create an 'enclave' of prosperous commercial farmers who identify their prosperity with the current economic structure and with the multinational corporations who process and market their products. Instead of igniting a far-reaching movement for fundamental social change in which the poor majority would take part, the new aid programmes, wittingly or not, threaten to co-opt the potential leaders of such a movement into becoming supporters of the status quo. And the status quo for the majority will still be hunger, or as we have seen, increasing hunger.

Thus foreign aid is appropriate only when given to those countries where serious steps are being taken to redistribute control over food-producing resources.

Adapted from F. M. Lappe and J. Collins (1979) *World Hunger: Ten Myths*, Institute for Food and Development Policy, and F. M. Lappe and J. Collins 'Food First' *New Internationalist*, August, 1976.

RESOURCE 5

THE CAUSES OF DROUGHT AND FAMINE IN THE SAHEL

- A Even more shocking than the pushing of cash and export crops in the face of declining food production is the fact that all but one Sahelian country actually produced enough grain to feed its total population, even during the worst drought year of 1973.

Most farmers who grow cash crops find themselves without enough money or food reserves to meet their families' needs from one marketing season to the next. In order to survive what they call the 'hungry' season – the months of particularly arduous work right before harvest – they are forced to take out loans in cash or millet at exorbitant interest rates from the local merchants. Local merchants have the grain because they buy it from farmers during harvest time when abundant supply makes for low prices and when farmers must sell to pay their debts and taxes. The merchants sell the hoarded grain during the hungry season at two or three times the price originally paid, and even export it to higher income markets in neighbouring countries.

In such societies where speculation in food is 'normal', hunger and seeming expansion of the desert are the products not of drought but of a parasitic class of money-lenders and grain-hoarding speculators.

- B Thus, any analysis of famine that puts the blame on unexpected droughts will never come to grips with the inequalities in power at the root of the problem. Solutions proposed will inevitably be limited to the technical and administrative aspects – irrigation programmes, modern mechanisation, new seed varieties, foreign investment, grain reserve banks, and so on. Such an analysis allows no reflection upon the political and economic arrangements that, far more than low rainfall, are at the root of low productivity and human deprivation. Thus we would be right to replace the term *natural disaster* by the more appropriate term *social or political disaster*.

- C What happened to a system that was adapted over centuries to deal with periodic drought? First, even before the French conquest in the late nineteenth and early twentieth centuries, the slave trade had taken millions of people in bondage to the New World. Then came the French and years of bloody fighting. Having established a permanent presence, the French looked for ways to make their new subjects pay for the administrative costs of occupation. The French solution to this problem of their own making was to force the peasants to cultivate crops for export, particularly peanuts and cotton.

- D Many falsely assume that the Sahelian drought beginning in 1969 was *the* Sahelian drought. But climatologists consider drought to be an 'integral part' of the climate of the region.

By studying the retardation in the growth of tree-rings, scientists have detected that there have been severe droughts several times over the past three centuries and numerous dry spells from time to time. A recent study concluded 'there was no indication of any long continued upward or downward trend in rainfall nor is there any obvious cycle'. Thus the expansion of the desert cannot be attributed to any long-term climatic change.

- E Over the centuries the small farmers of the Sahel had developed a profound understanding of their environment. They knew the necessity of letting land lie fallow for up to twenty years and they cultivated a wide variety of crops, each adapted to a different micro-environment and yet together offering nutritional complementarity. In fact, Mali was once known as the bread basket of Africa. It could always be counted upon to trade grain in times of neighbours' needs. The Sahelian pre-colonial custom was to construct small farming and village granaries for storing millet for flour and in some cases for even more years of consumption, knowing full well that small-harvest years should be expected.

- F It is embarrassing for those who blame drought and an encroaching desert for famine in the Sahel to explain the vast amounts of agricultural goods sent out of the region, even during the worst years of drought. Ships in the port of Dakar bringing in 'relief' food departed with stores of peanuts, cotton, vegetables and meat. Of the hundreds of millions of dollars worth of agricultural goods the Sahel exported during the drought, over 60 per cent went to consumers in Europe and North America and the rest to the élites in other African countries. Marketing control – and profits – are still by and large in the hands of foreign, primarily French, corporations.

- G The techniques of colonialism and their devastating impact on the land and its people are hardly realities only of the past. While the Sahelian countries achieved formal independence in 1960, the successor governments have often outdone the French in forcing export crop production. Taxes that farmers can pay only by producing crops for export have been increased. By 1960, the last year of French rule, the tax had risen to the equivalent of forty kilos of cotton. By 1970, during the drought, the successor governments were forcing each adult peasant to grow at least forty-eight kilos of cotton just to pay taxes.

- H Where previously complementary crops such as millet and legumes were rotated, crop after crop of peanuts or cotton were cultivated until the soils were exhausted. To maintain cotton exports for the French, given the resulting decline in cotton yields, farmers were forced to expand the acreage in cotton in part by reducing planting of millet and sorghum.



RESOURCE 6

TEN FOOD FIRST FUNDAMENTALS

- A. Every country in the world has the resources necessary for its people to free themselves from hunger.
- B. People freeing themselves from hunger and safeguarding the world's agricultural environment are complementary goals.
- C. Whoever controls the land controls who eats. If food grown in the First World is to be exported to the Third World, the First World will control who eats what, how much and how often in the Third World. It is land that must be redistributed, not food. Land reform is a necessary path to successful rural development.
- D. To balance a country's population and resources, it is urgent to address the root cause of both hunger and high birth rates: the insecurity and poverty that result from the control over basic food resources by too few people.
- E. Our role is not to go in and 'set things right', for wherever people are hungry there are already many ordinary, brave men and women working to democratise the control of food-producing resources.
- F. Justice and production are complementary goals. The most wasteful and inefficient food system is one controlled by a few in the interests of a few.
- G. The appropriate response of First and Second World people to hunger in the Third World is not more or even improved government foreign 'aid'. We must work instead to help remove the obstacles in the way of people's efforts for self-determination, especially those obstacles being built by the penetration of agribusiness corporations.
- H. Hunger is only made worse when approached as a technical problem. Hunger can only be overcome by transforming social structures so that the majority directly participate in building a democratic economic system.
- I. Export agriculture is not the enemy. But in a society where only a powerful minority control the productive resources, export-oriented agriculture strengthens their grip. To ensure food security, agriculture must become, first and foremost, a way for people to produce their food and livelihood and only secondarily a possible source of foreign exchange.
- J. The hungry are our allies, not our enemies nor a perpetual burden. Our food security is not threatened by hungry people but by a system that concentrates economic power in the hands of a powerful minority which profits by the generation of scarcity and the internationalisation of food control.

RESOURCE 7

GLOBAL FOOD CONNECTIONS

PARTICIPANT ACTIVITIES

- Explain if and how the diagram headed "Global Food Connections" either (a) contradicts, or (b) helps explain the Third World perspective on food issues developed in this workshop.
- Examine the Student Activities listed below. Evaluate the extent to which these activities are suitable for Years 9-10 Geography or Social Science students.
- Explain how (a) the diagram and (b) the Student Activities could be adapted to make them suitable for another Year level and/or subject area.
- Identify any problems that you might face in teaching about global food connections. How would you handle them?

STUDENT ACTIVITIES

1. Study the diagram, "Global Food Connections". From when food is first planted to when it arrives on the dinner tables of the world, food goes through many stages and many groups have an influence on what is produced. Use the information in the diagram to answer the following questions about five stages in the global food connection.

Stage 1: Agribusiness suppliers

- (a) Name some examples of the companies
- (b) What do they supply to farmers?

Stage 2: Farmers (the producers)

- (c) Name the three types of farmer.
- (d) What happens to the food that each type produces? (Would they eat it or sell it?)
- (e) What problems are each group facing?
- (f) Which of these groups do you think would produce the most food for world markets?

Stage 3: Agribusiness middlemen

- (g) What do these people do?
- (h) Who are they linked to?

2. How powerful are the following groups in influencing what food is grown and sold. Score them "1" (most powerful in influencing what is grown and sold) to "5" (least powerful in influencing what is grown and sold). Write the scores in the boxes. Be able to explain why you have scored them where you have.

- Agribusiness suppliers ☐
- Large scale western farmers ☐
- Small scale western farmers ☐
- Agribusiness middlemen ☐
- Small food retailers ☐
- Western consumers ☐
- Western retailers ☐
- Third World elites ☐
- Third World farmers ☐

3. Many products that we currently buy are produced in the Third World on plantations or as cash crops on farmers' land.

- (a) Survey the shelves of your local supermarket to find out how many products come from Third World countries.

- (b) Prepare a series of graphs/maps to show where the various products come from. Describe your results.

- (c) Following the results of your survey, discuss these questions:

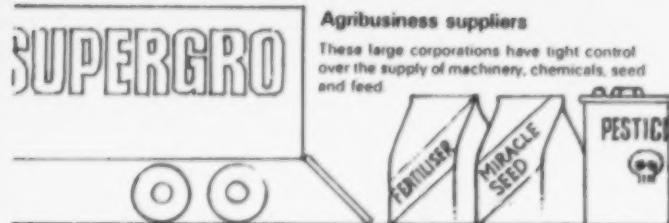


- If we buy cash crop products from Third World countries, who is likely to get most of the money? Who are we likely to be harming?
 - In your opinion, should we buy products from Third World countries? Why?
 - Would some of the products be better to support than others? Why?
- (d) Prepare a report (to another class or to a school assembly) or a poster to explain how our consumption habits affect people in the Third World.

Source: The Student Activities are based upon an activity first developed by Ros Hall and published in J. Fien, ed. (1989) *Living in a Global Environment*. AGTA Inc. and New Internationalist, Brisbane, Ch. 3. The "Global Food Connections" diagram was first published in the *New Internationalist Calendar*, February 1987.

Global food connections

From the field to the shopping basket.
A guide to the main components of the world's food factory.



Agribusiness suppliers

These large corporations have tight control over the supply of machinery, chemicals, seed and feed.



Large-scale Western farmers

They are dependent on big corporations for inputs as well as for processing and marketing produce. Their debt load is increasing and profit margin decreasing.

Small-scale Western farmers

Their production is efficient but increasing costs and low net income mean they are having difficulty surviving.

Third World peasants

They are being cleared from their land for export crops and producing less food for their families.

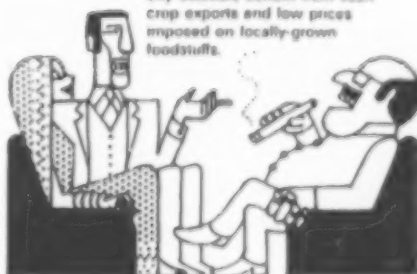


Agribusiness 'middlemen'

These corporations (sometimes linked to the companies which sell the inputs) process, manufacture and market food and can determine prices to both farmers and consumers.

Third World elites

Large landowners and affluent city dwellers benefit from cash crop exports and low prices imposed on locally-grown foodstuffs.



Consumers

The final step in the food factory. Like the farmers they have the least power. Food quality, price and availability are determined outside their control.



Food retailers

The retail food business is a mix of big and small companies but is increasingly dominated by large supermarket chains.



READING 1

THE POLITICAL ECONOMY OF FAMINE

Drought followed by famine struck the Sahelian regions of West Africa in 1968-1974 and again in the early 1990s. To what extent were these "natural disasters"?

Sahel is an Arabic word meaning "the border" and describes the semi-arid grass and bushland that forms the transition between the Saharan desert environment and the dry savanna environment. Traditionally the pastoralists here, such as the Mali and Fulani tribes, followed an annual pattern of activities controlled by the seasons. During the very long hot dry season, the people herded small groups of cattle, sheep and goats south to the slightly more moist savanna areas. The next season is short and unreliable (up to 400 millimetres of rain, but with a variability of 80 per cent). The people move north with their herds to their homes in the Sahel during this season. There they join their families and the non-nomadic farmers, who traditionally have grown sorghum and millet. The nature of the economy and taxes in the region have forced a decline in food cropping and a marked rise in the production of cotton and groundnuts (peanuts) as cash crops for the export market.

In 1968, a period of eight years with rainfall well below the 300-400 millimetre average began. By 1972, the drought had reached disaster proportions. Large areas reported total crop failures between 1972 and 1974. It was the livestock that went first. The animals were sold when food supplies of millet and sorghum became scarce. Cattle markets were soon glutted, prices fell, and the animals were left to starve. Livestock losses totalled many millions, with an 80 per cent reduction in cattle numbers. With their wells dried and their crops and animals gone, the people migrated south in ever increasing numbers, to the towns and cities where food aid from overseas was available.

Altogether, over 30 million people were affected, with over 150 000 lives lost in the famine; 100 000 dying in 1973 alone. The social costs lingered long after 1974-76 when the rains finally came. Family and tribal groupings have been dispersed and traditional herding has all but disappeared. The growth of shanty towns, urban unemployment, starvation, food relief programmes and a dependence on foreign aid have remained, all causing long-term social and economic destitution.

Yet were these droughts and the famine really "natural"? The geophysical event of unreliable and low rainfall certainly was. It is a characteristic of all areas that border deserts. But what about crop failures, animal losses and famine? Were these "natural" and inevitable?

A comment provided by a farmer interviewed during the drought in 1974 provides a clue:

The last three years could not be like those we talked of (earlier). Why? Because at the present time, provided one has the means, one finds something to eat. There was no food in those previous years, and when those who had gone to look for some returned, there were already some deaths in their family. Today people die of hunger only if they do not have the means.

Source: Fien, J. (1986) *Studying Natural Hazards*, Longman, Harlow, pp. 19-20.

TRAVELLER *or* TOURIST

TOURISM IN THE DEVELOPING WORLD

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INTRODUCTION

This workshop raises questions about the impact of tourism on the Third World, one of the most important and fastest growing sources of income and employment. As such, tourism is a major resource but, like so many forms of development, it is also potentially very damaging in a variety of ways: environmental degradation, economic dependence, cultural imperialism and social disarray can all result from unwise tourist development.

The topic of tourism and development has great potential for development education in Australian schools. First, developing Asian nations are major destinations for Australian tourists. So studying the impact of tourism on these countries has direct implications for the way we think about and conduct ourselves in travel to these areas, and for our understanding of their economic, social and cultural differences. Becoming 'terrific travellers' rather than 'terrible tourists' can have real benefits if it leads Australians to assess how they behave when travelling.

Second, Australian tourism and other contacts with these areas means that there should be no shortage of people and resources on this topic. Australian visitors who can give first hand accounts of these countries, immigrants from these countries who can give a different perspective on the impact of tourism, tourist promotions agencies and literature which allow the study of the public image of tourism to the overseas consumer together provide an opportunity for close study of the tourist industry and experience.

Third, tourism is a major growth industry in Australia, and its positive and negative effects are just as evident here as elsewhere. This means that the study of tourism in the Third World can be related to our own experience, and responses to issues there can be compared with those in Australia. This comparison can provide a bridge between ourselves and the people in the countries we are studying, with great potential for empathy and understanding.

OUTCOMES

The workshop aims to increase participants' understanding of the operation of Third World tourism, its impacts on life in those countries, and implications for change at the personal and policy levels, and the educational implications of these issues. Specifically, the workshop promotes:

- knowledge of the nature and significance of tourism in Third World countries;
- understanding of the benefits and problems for Third World people of various forms of tourism, especially in terms of quality of life, social justice, welfare and the environment;
- a critical awareness of the political economy of tourism in the Third World and aspects which need to be changed to protect the welfare of people and environmental quality in those countries;
- a personal commitment to promoting tourist activity which will maximise rather than detract from the welfare of people and environmental quality in host countries.

WORKSHOP OUTLINE

The workshop comprises the following elements:

1. Focus Activity: Images of Developing Countries

A group discussion activity to raise major issues and focus on the chief aims of the workshop. Based on analysing descriptions of tourist attractions in Asian countries, the workshop will raise questions about the image of these countries in the tourist industry, the popular forms of tourist activity, and the economic and other impacts of tourism on these countries.

The aim is to show how the impact of tourism is partly a result of the demand created by the image marketed by tourist operators. In other words, the nature of tourist development is significantly affected by the images we hold about the desirable aspects of a place, since we are the consumers to whom the appeal is being aimed. In this way we are involved in the development of tourism in these countries.

Note that three descriptions are provided with the activity. If possible, actual copies of tourist brochures would be preferable, since illustrations are an important part of the image presented.

2. The Consequences of Tourist Development

This workshop/discussion activity aims to raise problematic issues of tourist development by asking participants to make judgments about some of its consequences. In classifying consequences as favourable, unfavourable and neutral, participants should become aware of the complexities of the issues and the various perspectives from which they can be judged. In particular, the discussion should acknowledge the competing ethical, economic, social and environmental considerations in judging any tourist development.

At this stage participants should not be pressed to draw firm conclusions. The aim is to open the issues up to critical scrutiny.

3. Case Studies in Tourist Development

This is a small group activity. Participants analyse a series of case studies of the impact of tourism on selected Third World countries, including Fiji, Sri Lanka, and

Nepal. The workshop focuses on the positive and negative effects of tourism in these areas, and policy options available to promote socially just and environmentally sustainable solutions to problems. The resources for this activity require extensive reading and could be distributed earlier for pre-reading.

4. Being an Enlightened Traveller

This workshop/discussion raises the issue of Third World tourism from the perspective of the Australian tourist. It reviews alternative tourist roles and suggested codes of behaviour for tourists to Third World countries.

It also considers the implications of the 'enlightened traveller' idea by asking participants to construct an advertisement for a tourist visit to their own localities. The advertisement will aim to promote the kind of tourist experience recommended by the previous sections of the workshop.

5. Discussion

This concluding section reviews the previous activities and important implications for school curricula and teaching, identifying productive teaching activities relevant to the topic, and discussing problematic issues which could arise in teaching about tourism in the Third World.

MATERIALS REQUIRED OVERHEAD TRANSPARENCY MASTER

OHT 1: Being an Enlightened Traveller

RESOURCES

- Resource 1: Tourist Images of Asia: Singapore
- Resource 2: Tourist Images of Asia: Thailand
- Resource 3: Tourist Images of Asia: Bali
- Resource 4: The Pros and Cons of Tourist Development
- Resource 5: Case Studies in Tourist Development
- Resource 6: Case Study of Tourist Development: Sri Lanka
- Resource 7: Case Study of Tourist Development: Nepal
- Resource 8: Case Study of Tourist Development: Fiji
- Resource 9: Being an Enlightened Traveller

READING

For a valuable overview, the books by Harrison, Lea, World Wildlife Fund and *New Internationalist* (Dec. 1984) are useful sources of information, concepts and illustrations.

ADDITIONAL READING

- Controvers (various issues)
- Gamble, W. (1989) *Tourism and Development in Africa*, John Murray, London.
- Harrison, D. (Ed.) (1992) *Tourism and the Less Developed Countries*, Bellhaven Press, London.
- Lea, J. (1988) *Tourism and Development in the Third World*, Routledge, London.
- New Internationalist*, December 1984.
- One World Travel (1990) *Travel Wise and Be Welcome*, Community Aid Abroad, Melbourne.



Classroom Resources

Purdie, H. and O'Connor, D. (1990) *Tourism: The Total Picture*, Jacaranda, Milton.

Community Aid Abroad (1992) *Teachers for One World*, No. 19, February.

Worldwide Fund For Nature (1991) *Tourism: Environment and Development Perspectives*, Worldwide Fund For Nature, Godalming.

ACTIVITIES

1. FOCUS ACTIVITY: TOURIST IMAGES OF ASIA

This exercise is aimed mainly at establishing the link between the Australian consumer (or potential consumer) of tourism and the development of tourism in the host countries. The argument is that knowing about tourism has a personal significance as our views of desirable tourist activities can influence tourist development.

Tourist destinations are products constructed for consumption. They are constructed in two ways: first, as images to appeal to the consumer, and second, as actual sites for buildings, services, work and the everyday activities of people living in these areas. These two constructions are related, but the image is not a simple reflection of the existing tangible reality. Tourist operators construct images based in part on the existing resources of the destination but they tailor the image to what they think consumers want. In addition, this desired image becomes the model for the construction of physical facilities and the kinds of services, activities and work which goes on. Thus, the image in a sense is then constructing the reality.

This exercise tries to capture some of these ideas. It is based upon the "touristic" descriptions of Singapore, Thailand and Bali in Resources 1-3, respectively. Note that actual tourist brochures would be a preferable basis for discussion, but that the descriptions provided would be quite adequate.

- Divide participants into small groups and give each group a copy of either Resource 1, Resource 2 or Resource 3. Ask the groups to read the statements and answer the questions at the end.
- After 20 minutes, conduct a general discussion of group answers, focusing especially on the concept of images and the construction of reality in the third set of questions explored by each group.

2. THE PROS AND CONS OF TOURIST DEVELOPMENT

This session considers general issues which will arise in the following activities. It is based on a workshop activity in which participants classify the series of statements about the relationship between tourism and development in Resource 4 as favourable, unfavourable or neutral.

The aim is to engage the group in thinking about the complexity of the potential effects of tourism, and the criteria which might be used to judge them.

The group leader should be prepared to elaborate the points where necessary with information from the literature. The points are taken largely from the references listed, especially Gamble, Lea, Purdie and O'Connor, and *New Internationalist*.

The discussion should raise specific issues about the nature of tourist development, but also more fundamental issues about development itself and notions of human welfare and environmental quality.

3. CASE STUDIES IN TOURIST DEVELOPMENT

This is a major activity which considers issues in three tourism areas: Sri Lanka (Resource 6), Nepal (Resource 7) and Fiji (Resource 8). These case studies are intended to introduce concrete evidence on which analysis and discussion can be based.

The activity requires a considerable amount of reading. Participants can be asked to read one or all three of the case studies. While the three cases together give a useful range of information, there may not be time to read them all. It may be desirable to allocate and distribute this reading before the workshop.

- After the chosen reading task is completed and participants directed into appropriate work groups, give each group a copy of the discussion questions on Resource 5.
- Allow 30 minutes for group work on these questions.
- Groups then present a short report on their findings.
- To conclude the activity, ask participants to discuss:
 - Is it ethical to travel to a place where the 12 principles on Resource 5 are not followed?
 - What travel alternatives are there?

4. BEING A TRAVELLER RATHER THAN A TOURIST

This activity raises issues of how tourists to developing countries should conduct themselves — how to be a traveller rather than tourist. It looks at the personal implications of the earlier activities and how visitors can act in such a way as to minimise the harmful impact of tourism.

The distinction is between the *traveller* who visits in order to learn and experience the cultures and environments of the places visited, and the *tourist* who visits to be entertained by images and experiences created especially for the tourist market. The argument is that being a traveller is a more productive approach for all concerned.

- Use OHT 1 to explore the qualities of an enlightened traveller.
- Distribute Resource 9 and ask participants to complete the questions on it in pairs. The questions explore the idea of the enlightened traveller and asks participants to use the concept to reflect on their own practice and to apply it to ideas of travel in their own area.

5. CONCLUSION: CURRICULUM IMPLICATIONS

The purpose of this concluding activity is to encourage participants to consider how they might incorporate the themes from this workshop into their teaching. This could include one or more of the following activities:

- Work in small groups to brainstorm the plan for a teaching unit on 'responsible travelling'.
- Adapt/simplify the readings in the resource sheets used in this workshop for pupils of different reading levels.
- Compile a list of audiovisual resources to complement the case studies used in this workshop.
- Design a 'diamond ranking' exercise based upon the principles for enlightened travellers on Resource 9/OHT 1
- Review relevant classroom resources such as those listed in the Additional Reading section.

OHT 1

BEING AN ENLIGHTENED TRAVELLER

Must tourism have negative effects on the environment and people of host countries? Can it be organised to support the historical, cultural and natural heritage of an area? The World Tourism Organisation argues that with care and proper policies the cultural and natural heritage of an area can be protected. One requirement is that tourists themselves act in ways which will sustain rather than damage host cultures and environments.

Suggestions from One World Travel include the following guide to travellers who respect the places they visit.

- If possible, stay with local people or in modest accommodation which does not require the expensive resource-consuming style of international hotels.
- Drink and eat local food so that more of the expenditure stays in the country.
- Get around on foot or by bicycle or local transport rather than tourist coach.
- Avoid off road tours which could damage soil and other aspects of the natural environment.
- Don't litter.
- Prepare for your trip by learning about the culture, history and customs of the people.
- Try to learn some of the language of the place you are to visit.
- Respect and try to fit in with local customs.
- Be sensitive to the intrusion of photographing people and places.
- Do not dress in ways which might offend local beliefs, especially in places of religious or spiritual significance.
- Be careful that in bargaining you are not exploiting the poverty and need of sellers.
- Respect the rights of people, especially when you are in the powerful position of being relatively wealthy.
- Avoid relationships, especially sexual ones, that are not based on equality of respect.
- Talk to local people about their country, their views of tourists.
- Think about the impact of tourism on the places and people you visit.



RESOURCE 1

TOURIST IMAGES OF ASIA: SINGAPORE

We can learn a lot about tourist development by looking at the images through which destinations are marketed. The following descriptions of a tourist destination in Asia are typical of those produced for the Australian market. In reading the material, consider what it shows about the Australian image of Asia as a tourist destination.

Fantastic shopping!

Few places on earth have shopping as good as Singapore. Bursting with exotic treasure and futuristic gadgets, Singapore is like an enormous bazaar where you can buy anything from cameras to Persian carpets, Thai silk to European designer fashions. For a mind-blowing experience try the huge department stores with their famous brands from all over the world. Orchard Road is full of them, while the stores on the East Coast such as City Plaza tend to be less busy and often a little cheaper. Shop till you drop on our special shopping tour - tremendous value and fun!

Delicious food!

Food is great fun in Singapore. Indulge your passion for Oriental dishes such as the famous Peking Duck. Sample superb Malaysian gado gado or subtle flavours of India in a range of delicious dishes. There are sushi bars for fans of Japanese food and restaurants serving every type of Western cuisine from Russian caviar to American hamburgers. And like the food, the variety of restaurants seems endless - everything from five-star to outdoor street stalls. The smell of Asian foods cooking, the bright neon lights and the constant bustle are invigorating. Or why not enjoy our 'Eastern Dinner Cruise' for the romantic evening with a difference - an experience you will treasure forever.

Captivating atmosphere!

In the cultural districts of Singapore you can mix shopping with sightseeing. Stroll down Serangoon Road (Little India) where the sights and smells of India fill the air. Visit the streets of Chinatown and see how life was in old Singapore. And don't forget Arab Street in the Muslim district. Overflowing with batik, basketware, jewellery and perfumes, it's full of charm and atmosphere. For garden lovers the Botanic Gardens offer a peaceful retreat while in Jurong, both the Chinese Garden with its pagodas and weeping willows, and the Japanese Garden of Tranquillity with its fine teahouse offer hours of distraction away from the busy city. These and other attractions can be enjoyed on our island tours including 'City Experience' and 'East Coast Highlights'.

Islands of fun!

Singapore's offshore islands offer great attractions. Visit Kusu (Turtle) Island with its sacred Chinese temple and survey the wonderful views across the harbour to Singapore. Or see Sentosa on our 'Home of Tranquillity' tour. Once a military base, it's now a pleasure resort where you can get round on the open-air monorail that lazily snakes its way to most of the island's attractions

... and no end of surprises!

In Singapore the surprises never seem to end. There is history a plenty for devotees of the past on our 'In Raffles' Footsteps' tour. There are temples heavy with incense, discos to bop in, golf courses to play on, race meetings to bet on and of course there is the unexpected - the discoveries unique to every traveller who steps out in dynamic Singapore.

QUESTIONS

1. The Description

- What aspects of the places are highlighted?
- What have the writers assumed the tourists want?
- What kind of person is this implied tourist?
- How successfully does the material stimulate your interest? How does it do this?
- Are there things you might want to do in these places which are not mentioned? If so, why are they omitted?

2. Images

- What is the dominant image of the place? Is it a narrow stereotype or does it reflect the variety of life in these destinations?
- What images of the people are presented? How well would they recognise themselves in the material?
- Does the image in any way enhance or demean their standing as people?

3. The Effect of Images

- How would this image feed back into the construction of the environment and life in these places?
- What kind of environment would the realisation of the images create?
- What problems might arise from the construction of it?
- What impact would the provision of these images have on the life and work of the people?



RESOURCE 2

TOURIST IMAGES OF ASIA: THAILAND

We can learn a lot about tourist development by looking at the images through which destinations are marketed. The following descriptions of a tourist destination in Asia are typical of those produced for the Australian market. In reading the material, consider what it shows about the Australian image of Asia as a tourist destination.

Bangkok - The City of Angels

Bangkok beautifully illustrates Thailand's contrasts. Surrounded by the roar of the city, saffron robed monks meditate peacefully in temple courtyards. At night the temple spires on the Chao Phya River glisten in floodlight while the streets flash with neon. Parts of the city offer a night-life of dubious reputation. Bars, discos, cabarets and the ubiquitous 'massage parlours' all vie for attention. Only a short distance away, graceful dancers will entertain you with a centuries-old repertoire.

It appears that everything is on sale everywhere - from high-rise department stores to market stalls, pavement sellers to sampans plying their trade on the canals that thread the city. The beautiful Thai silk for sale is genuine but the \$15 'Rolex' watch is not. In Bangkok the contrasts and contradictions of Thai life are brought home to the traveller in vivid colour. Our outstanding tours will introduce you to the city and its surrounding attractions. Tours to the city's temples and Grand Palace, to the floating markets, the delightful Rose Garden Resort and the infamous River Kwai.

The beautiful North

North from Bangkok you can experience the legendary beauty of the mountains, where Thailand's fascinating hill tribes live out their ancient cultures. Due to their isolation, these people have kept their customs, dialects and dances. Dotted with mist covered mountain ranges, this is also an area to go trekking and literally get off the beaten track. Chiang Mai and Chiang Rai offer fine accommodation from which to tour the area.

Thailand's romantic islands

If tropical islands are your thing then head for idyllic Phuket. This picturesque island is rapidly becoming one of Thailand's most popular destinations. Imagine enjoying the cool breezes off the Andaman Sea as you relax with a cool drink after a heavy day of swimming, sunbaking and beach massages. Or setting off for the day to nearby Pee Pee or Phang Nga islands.

Alternatively you can dine at the beach-front restaurants on the delightful island of Koh Samui across the peninsula in the Gulf of Siam. These islands, with their mix of perfect beaches, charming people and first class accommodation, are natural settings for restful, romantic holidays.

What's cooking?

Western style menus are common in the tourist areas and international hotels, but while you're in Thailand you mustn't miss the local cuisine. Building on the traditions of India and China, Thailand has blended a unique style. In the south the speciality is seafood whilst in the north sticky rice dishes are staple dishes. However be warned. Thai curries can be excruciatingly hot to the Western palate, though, if you avoid the fiery sauces, you will be rewarded with a varied and subtle style of cooking that uses the freshest of ingredients.

Games people play

If you enjoy a game of golf, a tennis work out or a flutter on the horses, you will be delighted by a trip to Thailand. Watersport enthusiasts will find excellent facilities at the seaside resort of Pattaya or the islands of Phuket and Koh Samui. Thailand's golf courses are numerous - there are ten 18-hole courses in Bangkok alone; and you can enjoy a day at the races at the Royal Bangkok Sports Club or the Royal Turf Club. Be a little adventurous and see a bout of Thai boxing. Essentially a martial art but also a spectator sport, Thai boxing is a brutal but fascinating spectacle. Hands, elbows, shoulders, feet and knees are used to the accompaniment of traditional music. Sword fighting is another form of self defence that has, due to its high degree of concentration and skill, become an entertaining spectator sport.

Festivals for all occasions

Thailand's festivals and celebrations are usually very noisy and always extremely friendly. The Thai New Year is celebrated with religious pilgrimages, beauty parades, dancing and good-natured water throwing. The celebrations continue throughout the year and for the King's birthday in December the whole city is decorated in his honour. If you enjoy colour and spectacle then try to time your visit to coincide with one of these intoxicating and memorable celebrations.

QUESTIONS

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RESOURCE 3

TOURIST IMAGES OF ASIA: BALI

We can learn a lot about tourist development by looking at the images through which destinations are marketed. The following descriptions of a tourist destination in Asia are typical of those produced for the Australian market. In reading the material, consider what it shows about the Australian image of Asia as a tourist destination.

Bali on the beach

On Bali's popular beaches you can be as active or as idle as you wish. Cold drinks, soothing massages and tropical fruits are at your fingertips thanks to the ever friendly beach vendors. You can take to the water on a surfboard, a sail-board or hop on a local prahu for a sailing adventure with a difference. You can indulge your passion for skin and scuba diving on the island's reefs, or just play in the waves and comb the coral reefs for colourful shells.

On the road

Jump in a bemo or a hire car, and you're off through a fanfare of lush vegetation spilling onto the roads. Banana and Pepper trees, frangipanis and coconut palms all in a hurry of wild growth. Take the road into Denpasar for lunch. Here, vendors pushing their two-wheeled carts wander the streets with all kinds of incredible edibles - spicy soups, exotic fruits, coconut icecream, roasted nuts. On the roadside, embers crackle and glow beneath the skewered pieces of meat. Satay is everyone's favourite, and special fried rice, noodles and gado-gado with delicious peanut sauce is a treat not to be missed.

Into the hills

Head up into the hills for the art of Bali: paintings in Ubud, Mas for wooden and sandstone carvings, Celuk for silver. Young boys merrily work away on mysterious deities and magical garudas. Enigmatic demons with fang-like teeth cast wild looks with bulging eyes. A cassette player pumps the rhythmic beat of popular western culture while nearby smouldering incense drifts

from an altar where an offering sprinkled with holy water pays homage to the Hindu deities and divine spirits. And while you are there, no trip to Bali would be complete without a visit to the Monkey Forest at Sangeh. Experience the beauty of the temple and meet the resident monkeys who have made the sacred forest their home.

QUESTIONS

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RESOURCE 4

THE PROS AND CONS OF TOURIST DEVELOPMENT

This activity is an opportunity to think about issues related to tourist development. In particular, it tries to show that tourist development is not an unequivocal benefit for host countries, since, like any form of development, there are benefits and but also problems which result from it.

In addition, in deciding whether a certain point is a benefit or not, we must use criteria which will reveal values about development. Therefore, the activity is aimed at identifying values by which development might be judged also.

- For each of the points listed, decide whether it is: a benefit, (B) a problem (P), both a benefit and a problem (B/P), or a neutral (N) effect. Circle your answer in each case.
- It might be useful to consider the list individually at first, and then compare and discuss your decisions in a group.
- A concluding task would be to develop a number of generalisations about the impacts of tourism.

1. International tourists bring foreign currency into the host country. Tourism is a major export for many Third World countries.	B	P	B/P	N
2. Package holidays have become a major form of international tourism.	B	P	B/P	N
3. In 1970 the World Tourism Organisation was established as a UN affiliate. It aims at 'the promotion and development of tourism with a view to contributing to economic development, international understanding, peace, prosperity and universal respect for and observance of human rights and fundamental freedoms for all, without distinction as to race, sex, language and religion.'	B	P	B/P	N
4. Entertainments based on traditional culture are often presented for tourists at international hotels.	B	P	B/P	N
5. Some governments in developing countries offer investment incentives to tourist developers and operators. These may include tax incentives, speeding up import licences and land purchase and approvals, guaranteeing labour availability and pay rates.	B	P	B/P	N
6. The tourist industry generates costs for the host country, including infrastructure (roads, power, water, etc.), interest on loans, profits to overseas operators, building and maintenance, and imports used in tourist operations. Some forms of tourism have greater import demands than others (eg international hotels compared with guest houses accommodation).	B	P	B/P	N
7. Tourist spending is multiplied as it passes through various parts of the economy, though because of import effects the multiplier in Third World countries is less than in the developed world.	B	P	B/P	N
8. Tourist tastes (eg for clothing, consumer goods, and even values) are often taken up by local inhabitants in what is called the demonstration effect.	B	P	B/P	N
9. Tourism increases the demand for agricultural produce and local crafts.	B	P	B/P	N
10. Tourist development can diversify the economies of countries which may have previously been reliant on primary or extractive industries, which are subject to the fluctuation and in some cases the general decline of commodity prices.	B	P	B/P	N
11. Tourist development is less dependent on high technology and its returns in terms of profits and employment are more immediate than many other forms of development	B	P	B/P	N
12. Tourism is labour intensive.	B	P	B/P	N
13. Tourist development is usually very concentrated in a few small areas. Typically it leads to particularly strong growth in capital cities.	B	P	B/P	N
14. Tourist employment is often seasonal, and direct employment in hotels and the like is mainly for the young and unskilled.	B	P	B/P	N



RESOURCE 5

CASE STUDIES IN TOURIST DEVELOPMENT

- Read one of the case studies on tourist development in Sri Lanka (Resource 6), Nepal (Resource 7) or Fiji (Resource 8).
 - Identify the deleterious effects of tourism in the location chosen.
 - The following list contains suggestions from groups in developing countries about desirable policies to minimise the harmful effects of tourism.
 - Consider the suggestions and identify any which you think would address the particular problems you identified in the case studies.
 - Are there other suggestions you could make to help solve these problems?
 - What barriers might there be to implementing the suggestions?
- 4. Tourism infrastructure development should be compatible with the needs and practices of local communities.
 - 5. Labour intensive practices using locally available resources should be promoted, and minimum levels of local employment and resources should be required by law.
 - 6. Legislation should regulate the imported content of tourism.
 - 7. Minimum wage levels approved by independent labour unions should be required of all tourism activities.
 - 8. Planning controls should ensure regional dispersal of tourism development to avoid over-concentration and regional inequality.
 - 9. Levies on the tourist industry should be established to fund the teaching and development of traditional skills and art forms.
 - 10. Codes of conduct should be formulated and distributed at tourist outlets.
 - 11. Local employment should be provided at all levels, including managerial.
 - 12. Environmental safeguards and representation of local people should be rigidly applied in the development approval process.

SUGGESTIONS FOR A THIRD WORLD TOURISM POLICY

1. Hotels should be required to install effluent treatment plants.
2. No more agricultural land should be given over to tourism.
3. Development projects should be required by law to include local representatives on planning teams.

RESOURCE 6

CASE STUDIES IN TOURIST DEVELOPMENT 1: SRI LANKA

Sri Lanka looks upon international tourism as a solution to foreign exchange problems. In the 1970s the official gross foreign exchange receipts from tourism in the 1970s grew annually by 56.2%. However, tourist-earnings expressed in Lankan rupees is misleading, since during the decade, the rupee was considerably devalued. The real value of tourist earnings grew by 36.4%. Today tourism occupies the 4th place as a foreign exchange earner ranking after tea, rubber and petroleum products.

In arriving at the net foreign exchange earnings, deductions have to be made from gross earnings for the foreign exchange costs of servicing tourism. These costs may be broadly classified as operating and capital costs.

Operating costs include imported food, beverages, tobacco, fuel, expenditure abroad on advertising, publicity, and sales promotion; commissions paid to travel agents and tour operators abroad, maintenance costs of tourist offices abroad, servicing of foreign debts, management fees paid to foreign organisations, foreign travel of locals engaged in the tourist industry; payments to foreign consultants, architects and interior decorators, outflows of funds on account of interest, dividends, and capital repatriation on foreign investments in tourism.

Capital costs include costs of infrastructure, hotel accommodation and transport. Infrastructure development brings with it the foreign exchange costs of providing roads, railways, sea ports, air-ports, electricity, water service, telecommunications, sewage disposal etc. Hotel accommodation requires the foreign exchange costs of constructing hotels, motels, restaurants, rest houses; and purchasing lifts, air conditioning plant, furniture and fittings, kitchen equipment, bathroom fittings, electrical equipment, crockery, cutlery, linen etc. Transport equipment generates the foreign exchange cost of purchasing planes and helicopters, tourist buses, limousines and railway coaches.

As a result the net foreign exchange earnings from tourism are only some 59% of gross.

The tourist industry generates a variety of employment opportunities in diverse fields. Direct employment in the servicing sectors include jobs in hotels and restaurants - receptionists, waiters, room-boys, cooks, laundrymen, gardeners, maintenance staff, store-keepers, clerks; jobs in travel agencies, tourist shops, sports and recreational establishments. Indirect employment is created in the supplying sectors like handicrafts, jewellery, batiks, curios and souvenirs, food and beverages.

The figures indicate that 20% of the employees in the hotel industry are hired on a temporary basis. These casual workers are employed on a 'contract' basis or a daily wage-rate. They often get only a percentage of the service-charge paid to permanent employees and they join the ranks of the unemployed for half the year. This is a standard feature of hotel employment.

There is a heavy demand for jobs in hotels and restaurants, which account for about two-thirds of the total employment in the tourist industry. Hotel jobs are rewarding not because of the salaries and wages which are relatively low, but on account of the service-charge, tips and occasional gifts given by tourists. This makes hotel jobs glamorous and attractive and draws even upper middle-class recruits to service jobs that would be considered 'menial' or low prestige, servant-type jobs in Sri Lanka's traditional social system.

In the larger hotels it is quite common for unskilled and semi-skilled workers like gardeners, bell-boys, taxi drivers and kitchen-hands to earn a four-figure income especially during the high season. This helps to promote egalitarianism by undermining class differences based on income. However, when uneducated, unskilled labourers earn higher incomes than skilled and qualified professionals, then the entire system of rewards and incentives for work within the country is called into question.



Tourism contributes to National Income (GDP) directly through tourist expenditure and indirectly through the operation of the 'multiplier effect'. Although tourism's contribution to the GDP is quite small the growth rate has been very strong.

However, the multiplier effect itself and its use in assessing the impact of tourism in developing countries, has been criticised. The multiplier effect does work favourably in developed countries, but in countries like Sri Lanka where resources are scarce and even some essential commodities are imported, the multiplier effect is slight and leads to a transfer of resources from needier sectors of the economy.

Tourism can help in dispersing economic development in regional areas. In Sri Lanka where most of the non-agricultural production is confined to the Western Province and about 90% of the industrial production is concentrated in and around Colombo, the growth of tourism can help to diminish regional inequalities in development.

The relationship between tourism and local economies is problematic. For instance, in the case of tourist hotels, their output is irrelevant to the surrounding village economies, since it is absorbed by the foreign tourists and the local affluent elite. The only potential links are the inputs of labour and materials which the hotels must purchase from surrounding villages if the rural economies are to benefit. But this does not happen. As for labour, hotels prefer to employ English-speaking recruits from Colombo schools rather than Sinhala and Tamil-speaking youth from village schools. As for materials, village produce such as vegetables, fruits, fish and eggs are purchased by hotel suppliers, wholesalers who stand between the hotels and the producers and earn high profits. This point, combined with the small size of production units and the seasonality of the industry, means that the claim that dormant villages are led to greater economic prosperity by the regional effects of tourism is largely a myth.

Tourism development involves the provision of infrastructure facilities, goods and services which mean the provision of food, beverages, lodging, transport and recreation for visitors. This can mean the diversion of much needed scarce resources from people's needs to visitors' consumption. This transfer of resources takes place in a wide range of economic activity associated with tourism. Some examples are:

- *Food* - Lobsters, crabs, prawns, fish, meat, eggs, vegetables etc., are available for tourists, but not for local people.
- *Water* - It is estimated that the average consumption per tourist is more than 10 times that of a Colombo resident.
- *Building Materials* - Used lavishly for hotel-construction, these are scarce for house-construction.
- *Transport* - Ceylon Transport Board buses are badly overcrowded while tourist buses and coaches go half-empty.
- *Electricity* - One small hotel has more electric lights than an entire village in many areas.
- *Land* - Taken up by hotel complexes especially in beach-resorts, denying access to traditional economic pursuits like fishing. In areas like Hikkaduwa and Beruwala local fishermen have been edged out.

Local commentators have argued that Sri Lanka has been subsidising the low-cost holidays of the affluent industrial countries. From 1967 onwards the exchange rate moved progressively in favour of tourists, with a four fold drop against the US dollar from 1967 to 1980. The depreciation of the rupee makes holidays in Sri Lanka cheaper for foreigners while making foreign travel and stay abroad exorbitant for Sri Lankans themselves. This makes it easy for a lower-middle-class foreigner to enjoy a first-class holiday in Sri Lanka, while making it difficult for a rich Sri Lankan to have a third-class holiday abroad.

Sri Lanka promotes tourism by making it cheap for visitors through the exchange-rate and profitable for investors through fiscal incentives. The subsidies and concessions given to the tourist industry include a 5-year tax holiday on construction and operation of tourist hotels, with a tax rate reduced by 50% for 15 years after the 5-year tax holiday, lump-sum depreciation and development rebates by way of capital allowances, investment relief, income tax exemptions granted to foreign experts and executives and on profits arising to foreign contractors from the construction of tourist hotels.

Sri Lanka is advertised as the 'pearl of the Indian Ocean', and a 'charming tropical paradise with beautiful natural scenery'. What sells best and hence what is pushed hardest is the exotic imagery. The artificial image projected by the tourist industry contrasts sharply with the harsh reality of a poor third-world country struggling along the path of development.

As E. D. Mendis of the Christian Workers Fellowship writes:

In a sense, we are compelled to create these tourist enclaves since we are obliged to fulfil the expectations of our visitors who come here to sample a taste of paradise. We must make it possible for them to enjoy the sun and the sea and if we do not insulate them from the stark miseries of our country, they may be nauseated or conscience-stricken, and not visit us again. Hence the strenuous efforts at window-dressing, camouflaging the squalor, and sweeping the dirt under the carpet, take the form of rounding up beggars, keeping the cities clean, and planting colourful flowers on our roundabouts. We cover up the sores with bright raiment and present to our visitors a cheerful, smiling Lanka who in reality is nothing but a sick and anaemic lady with a painted face.

Adapted from Mendis, E. D. (1981) *The Economic, Social and Cultural Impact of Tourism on Sri Lanka*, Christian Workers' Fellowship, Colombo.



RESOURCE 7

CASE STUDIES IN TOURIST DEVELOPMENT 2: NEPAL

The Himalayas have long been a tourist destination, sought out by pilgrims and hermits to whom the mountains were sacred ground. Moghul emperors of the early seventeenth century sought paradise in the Kashmir hills during the hot season, and their British conquerors continued that tradition. Since Indian independence, these hill stations have seen growing Indian tourism by an increasing Indian middle class.

In addition, relatively low cost jet travel to South Asia and an increasing interest by Europeans and Americans in ethnic and environmental tourism, along with a continuing depiction of the Himalaya as 'Shangri-la' in books, magazines, films, and travel advertisements, have led to mass tourism in places such as Kashmir, Nepal, Bhutan, and Sikkim. Nepal is the one most actively encouraging tourism, and, as a result, experiencing its benefits and disappointments.

By all international standards of comparison, Nepal is one of the very poorest and least developed nations in the world. It is 90 per cent agricultural but food production lags behind population growth. Its systems of land tenure produce widespread inequality in ownership, tenancy, and indebtedness. Life expectancy and adult literacy are very low; less than 10 percent of the people have access to electricity; and a similar proportion have safe drinking water. Over 50 percent of Nepal's population is considered to be living in absolute poverty in the early 1980s.

Amidst such dismal development results, tourism has emerged as one of the few encouraging sectors of the Nepalese economy, and has become Nepal's number one source of foreign exchange.

Government policies played an important part in this growth, by loosening visa policies; opening of previously restricted mountain areas to trekking; developing a national park system; investing in the creation and improvement of an international airport; loans for hotel and restaurant development; and the permitting of gambling in a Kathmandu international hotel.

Evaluating the impact of tourism is made more difficult by the unavailability of basic information on foreign investment in Nepalese hotels and trekking agencies or on government subsidisation policies such as tax holidays. The Nepalese case is complicated by different, economic, and environmental effects generated by different sorts of tourism, interacting with diverse ethnic groups living in varying environmental circumstances.

In the mid-1960s, Nepal introduced the idea of completely catered hiking tours, on which native porters carried all the clients' gear and supplies, set up the camps, handled the cooking, and acted as general personal servants. It opened up the hills to an adventurous but tamed travel that insulated the tourist from Nepali languages and customs and the problems of route-finding and procuring food and places to sleep. Its combination of comfort (e.g., large tents, thick foam mattresses, tables and chairs, Western food, camera-only carriage of gear) and exoticness, coupled with the worldwide fame of destinations like Mount Everest and Annapurna, made such organised treks a booming activity at a time of great Western interest in environmental and ethnic tourism and backpacking.

Today, group trekkers are looked down on by independent trekkers. They rarely stay in local tea-shops or homes or dine in the local style, and their interaction with the local folk is narrowed. Although the demonstration effects of the sophisticated gear, cameras, watches, and tape recorders may be substantial, and though group trekking places natives in extremely servile positions, the relative lack of interaction makes for perhaps a less profound culture contact than that between natives and independent trekkers, who attempt to maximally interact with locals.

The economic impacts of group trekking are also limited. The bulk of supplies for the group's trip are bought before departure in Kathmandu, because many of the Western-style camping foods (e.g., canned juices, chocolate bars) are available only there. It has been found that not more than 5 percent of the group

trekking food budget is spent locally. Purchases of firewood and the hiring of porters are the major local economic impacts, but porter hiring often has little effect on the communities trekked through, since arrangements for porters are made predominantly in Kathmandu and at the trail head.

Although organised group trekking may affect local food shortages and inflation very little, it has relatively few economic benefits for the depressed economies of the remoter hill regions. Thus, group trekking offers small recompense for the disruption of daily life that it may cause and the damaging environmental impact it often has on popular routes.

For instance, the Sherpa people of the northeast region of Khumbu have seen a shift of economic power from older men of established families to young and middle-age men, many of whom were not of traditionally high-status families. Other effects include prolonged absence of a large number of males; inflation of agricultural day-labour wage rates affecting the ability of many families to maintain their farms; and a monetarization of the economy.

Financial support of the Khumbu monasteries has dwindled, as has entrance into the monkhood. Several monks had abandoned the monastery for tourist employment, and young men whose high intelligence might once have led them to become lamas were now entering the tourist trade. Some commercialisation of arts occurred, the foremost religious painter of the area having turned to producing work for sale to tourists.

Not all of these changes were due to tourism, however. Changing attitudes to religion and the decline in polyandry, for example, had also been affected by the introduction of secular schools by a foreign aid group led by Sir Edmund Hillary and by the Nepalese government.

By 1980, tourism had become the source of 90 percent of the area's cash income, and on average one member per household was involved in trekking tourism. The other side of this increasing Sherpa cash income was inflation. While porters' wages tripled between 1964 and 1978, the cost of rice increased fourfold, until by 1978 the price of rice in Khumbu was double that in Kathmandu. Inflation of food and fuel prices took a good deal of the comparatively high income Sherpas were receiving from trekking, and, as independent trekkers began to bargain for food-stuffs in the Saturday market, this was aggravated further.

Another economic side effect of the trekking tourism boom was increasing economic hierarchies, with families involved in the inn business making considerably more profit than those involved only as porters.

During the 1970s, minor friction between tourists and hosts began to occur. Theft and begging grew, and some Sherpas resented the servile nature of porter work and even tourists' attempts at photography. Work for mountaineering expeditions also presented conflicts at times between subsistence wage work and religious values, as several peaks in the area were considered sacred by the Sherpas. Finally, exposure to Western values and material goods began to lead to the adoption of Western-style clothing by the men, and such items as cassette tape-recorders became highly sought after.

As the numbers of trekkers in Khumbu grew, ecological impacts from tourism also appeared. Water springs became contaminated, and inns made large demands on local water supplies. A growing litter problem and vegetation damage were also noted.

The most serious problem, however, was the deforestation of the Khumbu region. The local climate makes a fairly slow forest regeneration period of about sixty years. Sherpas traditionally looked on the local forests as community property and conserved them through restrictions on the cutting of green wood and the appointment of forest guardians to monitor use. This traditional system of controlled use of forest resources for local fuel and building needs broke down during the 1960s and 1970s.

As trekking parties seldom carried their own fuel, the supply of wood for tourists became profitable. Most of this wood was sold to the organised trekking groups which, with their large numbers of porters, open-fire cooking, and customary evening bonfires, had a considerable impact. The presence of over 4,000 trekkers per year, plus at least 5,500 supporting porters (most of whom were not Sherpas but residents of lower hill areas), led to a scarcity of woods along the main trekking route. Forests became confined to the more inaccessible areas, and protected stands appear as islands in some valleys where scarcely a bush remains.

The Nepalese government has tried to alleviate some of the growing environmental problems in the Khumbu region. In 1976, the Khumbu area was declared a national park (one of four in Nepal), to be administered with New Zealand advisory aid for the dual purpose of

maintaining the environment and promoting tourism. Measures were discussed to establish fixed camping sites in an attempt to (1) contain vegetation damage; (2) develop a network of toilet facilities to cut down water contamination; and (3) decrease the litter problem. In 1979, a ban on the purchase of firewood within the park by trekking groups was put into effect, and the government placed army guards in the area to patrol the forests.

However, the creation of the national park and government attempts to manage resource use led to conflicts with the local people, who resented the logging to construct the park headquarters and were concerned, despite assurances otherwise, that the park would prohibit their access to lumber and firewood. Local people were seldom involved in planning to minimise overgrazing, deforestation, and wildlife loss, and policy decisions in other Nepalese national parks gave Sherpas strong reason for alarm: Government concern with environmental preservation was so strict that, in two of Nepal's four national parks and in one of its four wildlife preserves, the inhabitants were removed and resettled.

It is difficult to assess the tourist impact on Khumbu. Economically, the Sherpas have been probably the most successful of all the Nepal hill people in adapting to and exploiting ethnic and environmental tourism, with positive consequences for standards of living. Tourism generated goodwill toward the Sherpas has led to fundraising for schools, hospitals, and scholarships to continue children's education in Kathmandu.

However, such benefits must be weighed against the effects on inflation and differentiation in wealth, as well as a range of changes in social structure, culture, and environmental quality. Certainly, many of the environmental problems hastened or initiated by tourism in Khumbu are remediable, and it can also be argued that other modernisation and development measures are likely to lead to equally great economic and socio-cultural changes in Khumbu. Western medicine, nationalised secular education, and nationally structured local government already contributes equally with tourism in affecting, for example, the erosion of traditional roles and the place of Buddhism.

Ultimately, the judgment must be made by the Sherpas themselves. Here, there is an occasional division of the communities and a strong joint displeasure over some specific touristic impacts, such as the original plan to site the Everest View Hotel airstrip on cropland, and the tourist littering of a community water supply. But, overall, there appears to be an eagerness to participate in tourism, and investment in local inns, tea-houses, restaurants, and shops is probably greater than in any other mountain region of Nepal. Whether the famed Sherpa hospitality and the apparently smooth transition to a tourist-based economy will continue with even higher visitation levels and commercialisation of the society will be interesting to see.

Adapted from: Stevens, S. (1988) Tourism and development in Nepal, *Kroeber Anthropological Society Papers*, Nos 67-68, 1988.

RESOURCE 8

CASE STUDIES IN TOURIST DEVELOPMENT 3: FIJI

Pacific island tourism is dominated by the package tour. As with most tourism in developing countries, because peripheral tourist industries rely on foreign capital and material imports, a relatively high degree of foreign exchange leakage occurs. Package tours aggravate this situation since the costs of international airfares, travel agency commissions, bank charges, insurance, car rental, even meals, accommodation and some shopping is paid for by tourists before leaving the metropolis. If, as often happens, the tourist purchases a tour oriented around foreign-owned airlines, tour companies and hotels, the host country will have little opportunity to retain income from tourist expenditures. Where tour packages consist of a foreign airline, but with local hotel and other services, host countries receive on average 40-45 per cent of the tour retail price paid by the tourists in their home country. If both the airline and hotels are owned by foreign companies, a mere 22-25 percent of the retail tour price will be forwarded to the destination country.

This restriction of tourists (and their spending) to an organised, formal travel experience tends to confine the industry itself as an enclave. Many tourists enjoy their vacation only from a base of familiarity, and are unlikely to venture outside the formal tourist industry environment provided by packaged tours. The tourist is in effect being transported to a new place but in a familiar 'environmental bubble'.

As an export industry tourism generates income for the purchase of imported commodities and services. From 1963 to 1979, gross receipts from tourists increased by a factor of three, and tourism boosted Fiji's foreign exchange earnings with an average contribution of over 32 per cent of gross export income since 1968.

This helped the Fiji economy to overcome one of the most serious aspects of the colonial era - a dependence on a narrow range of export commodities. Up until the early 1960s at least 60 per cent of total export receipts were generated from the sugar industry. By 1986 tourism was Fiji's largest single source of foreign exchange.

From gross tourist receipts in 1975, 56 per cent of the total \$67 million was directly lost through payments for imports, foreign staff salaries and profit repatriation. Of the \$29.3 million remaining in Fiji, another \$9.3 million, or 13.9 per cent, was lost through the consumption of imports by tourism. Thus 70 percent of tourism-generated foreign exchange was lost. Tourism's leakage factor is higher than any other industry except mining, due largely to a reliance on imports which is in turn caused by the inflexible taste preferences of tourists in accommodation, food and transport, and the high degree of foreign ownership in the industry.

Tourism accommodation and shopping accounted for 80 per cent of tourism receipts, and the linkages of these sectors are the key to understanding the limited multiplier effect of tourist spending. After 70 per cent of shopping sector receipts were returned overseas, the multiplier effect of tourist shopping was limited almost entirely to the service sectors of the economy (particularly transport, retailing and wholesaling firms). Apart from small quantities of handicrafts, few local goods were sold to tourists. The accommodation sector made greater use of local products including food and beverage purchases. Forty-seven per cent of these hotel purchases were from local producers, and 53 per cent were from imports. The local benefits of hotel food and beverage purchases were further boosted with the taxes, duties, and distributors' margins gained by food imports.

However, the picture is more complex than would first appear. Local food industries have a high import demand (dairy products, beer) and/or extensive foreign ownership (beer, tobacco, soft drinks). Hotels rely on supplies from large wholesale-retail companies operating in Fiji. Specialising in imported brand names, the largest of these companies are foreign (Australian) owned. Although local producers supplied 47 per cent of hotel foodstuff purchases, most of this came from large 'formal sector' companies, particularly for meat, tobacco, bread, liquor and dairy products. In addition, hotels relied on large wholesalers for fruit and vegetables because of the inability of rural small producers to

supply produce regularly in the required quantity and quality. Finally, the chance for locals to supply hotels is further limited by the largest companies growing food-stuffs on their own land. In recent years two hotel companies supplied most of the fruit and vegetables for seven of their eleven hotels (eight of which are in rural areas close to potential indigenous suppliers).

Turning lastly to the construction and outfitting of hotels, the inability of local enterprises to supply hotel requirements becomes more apparent, although Fiji fares better in this respect than some other underdeveloped countries. Of the materials needed for a fully operational standard class hotel in 1976, 68 per cent came from overseas. Nevertheless, the construction of new tourist accommodation provided the major force for growth in the economy in the 1970s. However there have been adverse side effects.

The concentration of construction activity in the tourist industry hindered government attempts to develop secondary industry. Tourism construction reinforced the tertiary sector rather than making inputs available to agricultural producing and processing industries.

As the most dynamic industry over the last decade, tourism has played a key role in maintaining, but not increasing, the proportion of wage earning jobs available in the economy. Tourism's propensity to stimulate employment was lower than for all primary and secondary sector industries. Except for consumer spending and communications, tourism also had a lower employment potential than other tertiary sectors. And employment in the hotel sector has been falling in recent years. Furthermore, the cost of providing tourism jobs is high. An investment of at least \$25,000 is needed to create one hotel work place. In this respect, tourist shopping and handicraft vending may be better avenues to promote employment, although they probably offer less security. But tourism did have a very high demand for labour during the building and outfitting phases of hotel development, and the hotel sector had a higher labour demand than tourism as a whole.

The connection between ownership (and size) of tourism enterprises and their use of different financial sources is important in understanding indigenous participation in tourism. Because of low initial capital resources, low levels of management skills, inexperience in the tourist industry and the requirements of foreign tourists, Fijian and many Indian entrepreneurs have not been able to obtain adequate finance through normal commercial

channels, or develop viable tourism enterprises. By contrast, banking, insurance, and government agencies have been established directly to serve foreign, European and other formal sector companies.

The Fiji Government is the single most important local beneficiary of tourism. However, over a third of tourism-generated public revenue was spent by government on administration and infrastructural development directly related to tourism. In a country which has been unable to achieve balanced development, let alone adequate infrastructure for its own population, this expenditure is a serious distortion in the distribution of public funds. It has not necessarily been compensated for by the other benefits from tourism.

The advantages enjoyed by foreign, European and formal sector companies generally, as opposed to the barriers faced by most Indian, Fijian and smaller enterprises, is the single most important feature of the Fiji tourist industry.

Given the racial ordering of Fiji commerce and society generally, it is important to identify the extent to which each of the major racial groups benefits from tourism. Foreign companies have accounted for over 60% of retail turnover, with local European, Indian and Fijian enterprises accounting for a steeply reducing proportion. Indian and Fijian enterprises accounted for only some 15%.

The introduction of tourism to Fiji can be seen as the result of two mutually reinforcing sets of factors. Colonialism created economic and political stresses in the original agricultural economy, necessitating the further introduction of similar economic forces. Tourism was one such means of alleviating these stresses. Yet tourism was itself part of the colonial system, leading to a series of problems in a post-colonial context.

On the one hand tourism brings obvious economic benefits: the generation of foreign exchange, the attraction of foreign capital, the creation of jobs, and the diversification of exports. It has also helped provide an extensive international transport and communications network, and facilitated the upgrading and expansion of local infrastructure.

On the other hand, these benefits have been gained at considerable cost. The most concrete of these have been the administration of tourism, the provision of investment incentives and the public construction and maintenance of tourism infrastructure. More important have been the intangible costs. The tourist industry,

with its dominant metropolitan interests, its technological and political requirements and its spatial characteristics, has exacerbated the adverse conditions typical of a dependent capitalist social formation. The distribution of tourism income aggravates already serious class and racial tensions in Fiji society, and reinforces the regional inequality evident in the country's spatial organisation.

Foreign capital, the main force behind tourism development has been the main beneficiary of the industry. Except for the government, Fiji's European business community gained most from tourism. On the other hand, Fiji's non-white indigenous groups were confined to relatively unprofitable activities. While they provided the labour requirements of tourism enterprises, their control of tourism capital was minimal. Only in handicrafts and entertainment groups (both having very low rates of remuneration) were locals the main beneficiaries.

This pattern followed the parallel concentration of commercial resources, power and expertise in the hands of large overseas firms. Three corporations provided more than 90 per cent of international airline seating capacity (excluding regional carriers) and five companies accounted for all Fiji cruise-ship operations. Within Fiji, hotel chain companies operated 65 per cent of the country's total accommodation stock and 58 per cent of turnover.

The 1987 coup had a dramatic effect on the Fijian tourist industry, especially in Australia where 43% of Fiji's tourists originate. While the decline in visitors was soon arrested with large savings on cut price Fijian tours, the Fijian people suffered major effects. Widespread sackings, a 15% cut in public service salaries, currency devaluation and inflation all resulted, further heightening poverty, inequality and racial tensions.

Whatever the costs of tourism, Fiji has not been in a position to reject large-scale foreign tourism capital. With balance of payments deficits and low domestic savings, foreign capital eased some economic problems. But it has only sidestepped the serious structural, political and racial distortions in the country's social organisation. Tourism in Fiji, therefore, operates in two contradictory directions. It helps to alleviate problems derived from Fiji's colonial past, but is itself a product of this colonial structure and acts to exacerbate many features of this original condition.

Adapted from Britton, S. (1983) *Tourism and Underdevelopment in Fiji*, ANU Press, Canberra.

RESOURCE 9

BEING AN ENLIGHTENED TRAVELLER

People visit other places for a variety of reasons. Among them are:

- to escape the stresses of everyday life, to relax and be happy
- to be entertained by the spectacular and different
- to meet people and make new friends
- to learn about other cultures, develop understanding and empathy with other peoples
- to have a wild social time in a place far from the strictures and routine of home
- to experience personal challenges and adventures

In groups, complete the following tasks and share the outcomes with other groups:

1. Which of these purposes is/are assumed by the advertising copy in Activity One (Resource 1-3)? What is the likely relative impact of these different kinds of tourism?
2. Following is a list of recommendations from One World Travel for how an enlightened traveller should plan and conduct a visit. Consider and evaluate each recommendation. What is your view of each recommendation?
3. Given these recommendations, what kind of enlightened travel program would you be able to suggest for a visitor to your own area? Write a tourist 'blurb' for visitors to your area similar to those in Activity One above, but one which would promote enlightened travel as outlined in the thirteen points below.

RECOMMENDATIONS FOR THE ENLIGHTENED TRAVELLER

1. Where possible, stay with local people or in traditional accommodation. This will reduce the need for expensive, resource intensive hotels and facilities.
2. Eat local food and drink where possible, to reduce import costs and litter from packaging, and to support local producers.
3. Walk, cycle or use local buses to get around.
4. Don't hunt or buy souvenirs made from native animals.
5. In visiting an area, carry out your rubbish, leave only bio-degradable material
6. Learn as much as you can about local language, customs and history before arriving at the destination.
7. Be sensitive to local customs, observe carefully, treat people with respect.
8. Be sensitive in using cameras. These can be intrusive and offensive if used too conspicuously.
9. Dress modestly, especially in and around temples, mosques, churches and shrines.
10. Think about the sexual relationships you might form there and the position of power you hold in that relationship.
11. Think about the effects of bargaining on the incomes of the people you are dealing with, and whether it is a fair thing to do in different situations.
12. Talk to the local people about their country when ever possible.
13. Think about the impact of tourism on the community you are visiting, and how you might avoid making harmful impacts yourself.

WASTE MANAGEMENT *and* FUTURE PROBLEM SOLVING

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INTRODUCTION

This workshop looks at the serious problem of our growing waste. We are clearly able to produce more goods and to encourage more consumption these days than we are able to dispose of the resultant waste and be judicious about our consumption habits. Perhaps the major problem with the problem of waste, is that we only seem to recognise what we have done after the event, when the effects are making themselves felt. With solid waste the effects are usually obvious - but only if you live near the tip. "Out of sight, out of mind" is a tried and tested truism. With chemical wastes the effects are sometimes not nearly so obvious, and it may take years before people realise that there is a problem, and then more years before they can trace its source to cavalier disposal practices a decade or more ago.

This workshop explores both chemical and solid waste problems, the first through an activity that encourages a global view and the second through a "Future Problem Solving" activity that takes a specific look at the city of Manila in the Philippines.

"Future Problem Solving" is a strategy that projects into the near future, describes a particular problem and then requires the participants to engage in a specific sequence of steps to decide what should be done about this problem. When the participants arrive at their solutions, they are, in effect, presenting solutions that should be implemented in the here and now so that the future problem they have been dealing with, never actually comes to be.

OUTCOMES

The activities in this workshop will assist participants to:

- acknowledge the growing problem of waste in our world community;
- recognise the role of society in generating this "homegrown" problem;
- suggest ways of managing and solving this problem; and
- appreciate the value of a global perspective on local environmental issues.

WORKSHOP OUTLINE

The workshop consists of three parts:

Part 1 is an introduction to the problems of waste through a creative visualisation activity. It introduces participants to the severity of the problem by an indirect route.

Part 2 is more direct. It is a mini-lecture that deals with actual quantities of solid waste and outlines waste management strategies.

Part 3 presents a description of the waste problem that existed in the city of Manila, the Philippines in 1989, and asks the participants to engage in a Future Problem Solving activity to see if they can come up with suggestions that will lead to improvements with respect to Manila's waste problem.

Throughout the workshop a balance is struck between the physical problems of waste and the social problems that result.

MATERIALS REQUIRED

OVERHEAD TRANSPARENCY MASTERS

OHT 1: Future Problem Solving

OHTs may also be made of Resources 1 and 2.

RESOURCES

Resource 1: Feelings Checklist

Resource 2: Descriptors Checklist

Resource 3: A Fantasy Journey

Resource 4: This is Our Home

Resource 5: Waste Management - Metro Manilla, 1989: Background Report

Resource 6: Waste Management - Metro Manilla, 1989: Future Problem Solving

READING

Reading 1: Introduction to Solid Waste Problems

Reading 2: Future Problem Solving

ACTIVITIES

1. INITIATING ACTIVITY: CREATIVE VISUALISATION

This activity uses imagination and visualisation to take participants on a fantasy journey. The objectives of the activity are to help participants become aware of and concerned for the quantity and type of waste, both solid and chemical, in our world community; and to accept that the "foreign planet" is planet Earth and, therefore, that the judgements made about the inhabitants of this planet are judgement made about the inhabitants of Earth.

- Introduce participants to the "Feelings checklist" (Resource 1). Distribute copies and let them have a few minutes to look it over and to ask any questions about any of the feelings.
- Distribute the "Descriptors Checklist" (Resource 2). Allow participants a few minutes to look it over and to ask any questions about any of the descriptors.
- Inform the group they are going on a fantasy journey. Ask them to make themselves comfortable. This may mean leaning back in the chair, or sitting, or lying down on the floor in a circle. Darken the room if that is possible.

Read the text in Resource 3 in a quiet, calm voice. The idea is to relax the participants and to have their imaginations take over. Suitable "New Age" music may be played in the background to help create an appropriate atmosphere.

- Organise the participants into groups of three or four. Ask them to use the Feelings Sheet and the Descriptors Sheet to prepare a report that deals with the feelings they experienced as they journeyed over this foreign planet, and the behaviours and values of its inhabitants. The report should contain judgements about its inhabitants and a prediction for the future of this distant world.
- Distribute Resource 4, "This is Our Home" to each group. Group members take turns to read the statements on Resource 4 aloud to each other. It will become clear very quickly that the "distant world" they visited in their fantasy journey is Earth today.
- Invite whole group discussion to assess whether or not the judgements made about the inhabitants of foreign planet are accurate judgements about the inhabitants of Earth.

2. INTRODUCTION TO WASTE PROBLEMS

A. Mini-lecture

Use Reading 1 as the basis of a mini-lecture on the extent of waste in our "throw-away" society. Three key points should be explained:

- the "throwaway society" is a society that buys, uses and then throws away without a great deal of thought for the consequences;
- attitudes are critical to waste management, because unless people are disposed to consider the causes and consequences of waste, they will not be disposed to change their waste generating habits; and
- attitudes are difficult to change, because people simply get in the convenient habit of throwing away their waste without thinking. To change a convenient habit (buying and throwing) to an inconvenient one (buying less and throwing with care) is never easy.

B. Discussion

Invite small or whole group discussion on the following questions which review the mini-lecture:

- What is meant by the term "throwaway society"?
- What is thrown away and in what quantities?
- How did we get into a position where we throw away so much?
- What can you generalise about our attitudes to waste?
- How are these attitudes promoted / maintained?
- Are these attitudes appropriate? Why? Why not?
- How should we judge the attitudes of ourselves. Point to examples where these attitudes are appropriate or inappropriate.
- How easy is it for each of us to change our attitudes? How easy is it for others to change their attitudes?
- If we do not change our attitudes and our habits, what will our cities look and smell like in 10 years time?
- In what ways does the structure of society affect people's ability to change?
- You are a child born today. In 20 years time, when you have grown to adulthood the cities of the world have become almost unlivable. What will you say to your parents and grandparents who have contributed to this mess? What might they say to you?

3. FUTURE PROBLEM SOLVING: WASTE MANAGEMENT, MANILLA 1989

In this activity, participants work in small groups (3-5) to explore solutions to solid waste disposal, in the city of Manila, through a Future Problem Solving activity. The activity is based on a set of Future Problem Solving worksheets which take approximately 90-100 minutes to complete.

A. Introduction

- Divide the participants into small groups and distribute the Manilla waste management report (Resource 5). Groups read the report. This resource could have been distributed in advance for pre-reading.
- Conduct any discussion on the report as is necessary to clarify any uncertainties.
- Tell the groups to put the report aside until the nature of Future Problem Solving has been explained.

B. Mini-lecture

Use Reading 2 and OHT 1 to explore the 5 steps in Future Problem Solving.

C. The Activity

- Distribute a copy of Resource 6 to each group.
- Allow 90-100 minutes for groups to complete the 5 steps in the Future Problem Solving activity.

D. Debriefing

- Ask for responses from groups in the form of a mini "think tank" conference on solutions to the waste problems of Manila.
- Invite comments on the value of the two major strategies used in this workshop - creative visualisation and Future Problem Solving.

OHT 1

FUTURE PROBLEMS SOLVING

1. Identifying Possible Causes and Effects
2. Describing the Underlying Problem
3. Identifying Possible Solutions to the Underlying Problem
4. Describing the Best Solution
5. Outlining the Stages in Implementing the Best Solution and the Consequences of this Implementation

RESOURCE 1

FEELINGS CHECKLIST



RESOURCE 2

DESCRIPTORS CHECKLIST

able	fair	loving	responsible
accepting	foolish	modest	satisfied
ambitious	friendly	naive	selfish
bitter	giving	normal	sensible
bold	greedy	organised	silly
carefree	happy	overconfident	skilful
careless	hard	petty	strong
concerned	helpless	playful	stubborn
conforming	imaginative	powerful	tender
controlled	inconsiderate	proud	thoughtful
demanding	insensitive	rational	tough
dignified	intelligent	realistic	uncontrolled
disciplined	kind	reasonable	understanding
efficient	knowledgeable	reliable	vulnerable
energetic	lazy	respectful	wise



RESOURCE 3

A FANTASY JOURNEY

Make yourself as comfortable as possible ... relax ... take your mind of any worries or concerns that might be bothering you ... blot out any noises that might be going on outside the room ... and begin to breathe in and out in a steady fashion ... breathe in to the count of 1 .. 2 .. 3 and out to the count of 1 .. 2 .. 3, in 1 .. 2 .. 3 and out 1 .. 2 .. 3, in 1 .. 2 .. 3 ... now make your mind a blank ... fill it with a warm, soft darkness ... and relax ... slowly you become conscious of a gentle movement ... you are in a spacecraft, exploring outer space and other worlds... your craft is gently and quietly moving across the surface of a planet never visited by humans before ... its a living planet and habited ... but while you can see those who live there, they cannot see you ... your spacecraft is "cloaked" with invisibility.

Your space craft sinks lower to the surface ... and through its enormous observation window you see signs of what you would call "urban settlement" ...homes of the inhabitants are built very close together ... many are large and spacious ... these creatures obviously have a high standard of living ... and a high level of technology ... then you begin to fly over a poorer section ... the homes are run down .. in need of repair ... and many seem deserted ... the chemical sensor warns you of poisonous substances in the air and the soil ... you send the sensor to do a time scan ... and the results are strange ... for a long time in its history this section of land was clean and healthy ... then in a very brief period of time these poisons suddenly appeared ... almost as if they had been dumped there ... its disappointing and worrying ... but you move on ... and then you fly over forested mountains and hills ... you see many small streams coming together to form a large, majestic river ... you follow this river and see many farms and rural settlements along its course ... not unlike your home planet Earth ... these creatures are obviously advanced ... as the river gets closer to its mouth factories appear along its banks ... buildings that resemble oil refineries are common ... and again you are impressed by the level of development ... not unlike Earth in the late 20th century ... however, the chemical sensor display warns of the presence of carcinogens ... your computer breaks in to the computer of a large hospital ... the records show high rates of cancer and miscarriages ... more disappointing and more worrying ... the space craft moves on over a densely populated area of this land ... and you keep checking your chemi-

cal sensor display ... gradually the pattern of settlement becomes obvious ... the better off dwellings are in the cleaner areas ... the lower class dwellings are in areas that drive the chemical sensor display into a frenzy ... you memo your computer log ... "On this planet the rich do well and the poor get poisoned" ...

Your craft moves on ... across a sea and over another land area of this planet ... once again you are over a rural area ... and you see farms and villages ... but the farms are neglected ... and five villages are completely empty of life ... "ghost towns" ... why? ... the chemical sensor display registers high levels of heavy metals in the air and soil ... and there below you is the guilty party ... a large copper smelting plant, pumping out pollution ... you begin a memo to your computer log ... "These inhabitants appear to want to kill themselves and their planet" ... but you cannot finish it ... you are overwhelmed by the problems you have seen ... you fly further ... over another sea ... and below you is a cargo vessel ... sailing peacefully ... you fly lower ... trying to regain your composure ... the sea is calm and blue ... twin suns are setting on the horizon ... beautiful ... and then your chemical display sensor begins to scream at you ... the ship is transporting carcinogenic polychlorinated biphenyls (PCBs) ... your computer breaks into the ships records and ... these PCBs are being exported! !! ... from a rich country to a poor country! ... because the rich country does not want them ... and the poor country needs money so it is being paid to take them ... you memo your computer log ... "Here, they export ill health! and others import it!" ... it is difficult to stay calm ...you send your computer on a search ... and it uncovers a medical report that predicts a wave of chemical illnesses and chemical refugees in the near future ... "chemical refugees"??? ...

It is clear this is a planet of barbarians and holds nothing for the civilised people of Earth ... the spacecraft gathers speed ... and moves off into outer space ... looking for other, more appealing planets to explore ... this one is a lost cause ... the warm, soft darkness fills your mind again ... relax ... relax ...

When you are ready ... come out of your fantasy journey and back into this classroom ... become conscious of the noises around you ... of the chairs and the desks, of the walls and the floor, and of your companion participants ... the lights are now coming on ...

RESOURCE 4

THIS IS OUR HOME

The descriptions in the Fantasy Journey are no less than examples of reality from our own times and our own planet. The feelings, behaviours and values you referred to in your discussion about the new planet are appropriate descriptors for humans and their treatment of planet Earth.

THE POISONED URBAN SETTLEMENT

Beginning in 1920 a partially completed channel (called Love Canal) between the upper and lower Niagara rivers in upstate New York came into use as a municipal and chemical waste dump. In 1953 the channel was filled in and homes and schools were built on and around the site. Over time chemicals buried in Love Canal began to surface and residents often complained of strange odours and substances. In 1976 a consultant discovered toxic chemical residues in the air and in the sump pumps of a good percentage of homes bordering the canal. High levels of carcinogenic polychlorinated biphenyls (PCBs) were found in the storm sewer system ... in 1978 there was evidence of a high incidence of reproductive problems among women and high levels of chemical contamination in the homes, the soil and air ... Eventually all but 86 of the 900 families living in Love Canal were evacuated. *State of the World 1989*, p. 67.

A RIVER WITH FACTORIES AND BUILDINGS THAT RESEMBLE OIL REFINERIES

Along a 150 km stretch of the Mississippi River that winds from Baton Rouge to New Orleans there are 135 chemical plants and 7 oil refineries. Local incomes are primarily dependent on the jobs and incomes offered by these industries. But the region absorbs more toxic substances annually than do most entire states, including such dangerous substances as vinyl chloride, a carcinogen, and suspected embryotoxin. Several towns in this corridor have uncommonly high rates of cancer and miscarriages. *State of the World 1989*, p. 68.

FIVE VILLAGES EMPTY OF LIFE

The Polish government recently declared the village of Bogomice and four other villages "unfit for human habitation" due to the extremely high levels of heavy metals in the air and soil deposited by emissions from nearby copper smelting plants. The government is encouraging villagers from this region to resettle elsewhere by offering compensation. *State of the World 1989*, p. 68.

THE EXPORT OF CHEMICAL WASTES

Thousands of tons of US and European wastes have already been shipped to Africa and the Middle East. It costs from US\$250 - \$350 per ton to dispose of municipal and industrial wastes in the US, but some African countries will accept it for as little as US\$40 per ton. In 1987 and 1988 Italy dumped 3,800 tons of toxic waste in the small Nigerian port of Koko. PCBs, the chemical that put Love Canal on the map, made up at least 150 tons of this dumping. *State of the World 1989*, p. 70.

THE RICH DO WELL AND THE POOR GET POISONED

The poor of the cities of the third world face the environmental problems of underdevelopment along with those of overdevelopment. The shantytowns of the poor are found in areas unwanted by the well off: on floodplains, on steep slopes, around - and sometimes in - garbage dumps containing unknown quantities of toxic materials, and near hazardous industrial zones - such as at Bhopal. In USA the poorer the neighbourhood and the darker the skin of its residents, the more likely it is to be near a toxic waste dump. More than half of all black and Hispanic Americans live in communities with at least one toxic waste site. *State of the World 1990*, pp. 147 - 148.



A WAVE OF CHEMICAL ILLNESSES AND CHEMICAL REFUGEES

In 1976 an explosion in a small chemical plant in Seveso, Italy, led to 800 people being evacuated from their homes for more than one year. In 1987 the newspaper *Pravda* stated the industrial city of Ufa in the Urals had become "unfit for human habitation". The population of Ufa is nearly 1 million. The Nigerian government is making plans to evacuate the 5000 residents of the port city of Koko. Already Bogomice and four other villages in Poland have been evacuated. In Bhopal, India, in 1984 the Union Carbide pesticide plant accidentally released a cloud of deadly methyl isocyanate over the town, killing 2,500 and sending more than 200,000 fleeing for their lives. As many as

100,000 people are still suffering from such effects as blurred vision, lung diseases, intestinal bleeding, neurological and psychological disorders. The 150 km. stretch along the Mississippi from Baton Rouge to New Orleans has been referred to as "the national sacrifice zone" and the pollution has been described as "a modern form of barbarism". *State of the World 1989*, pp. 68 - 70.

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RESOURCE 5

WASTE MANAGEMENT - METRO MANILLA, 1989

EXISTING CONDITIONS

The current system for the collection of solid waste in Manila is unreliable because of a number of local conditions. Principally, the major impediment to a more reliable routine collection of solid wastes is caused by the extensive salvage operations both at the point of collection, and while the refuse is being transported to the existing dumps. Another major impediment to routine collection is caused by the monsoon season when the torrential rains cause flooding of the streets and severe deterioration of the paved roads so necessary for modern refuse collection trucks.

Another major problem interfering with better collection practices involves inaccessibility to the refuse sources because of the extensive areas where squatters have established themselves and by the many narrow, poorly maintained streets in many of the communities.

A reliable routine collection system can only be established in a community when the access roads to the landfills are properly designed and maintained. In many of the landfills, the roads are so poor that the disposal sites are inaccessible to the collection vehicles during storms.

In a metropolitan area as large as Metro Manila it is grossly inefficient for the collection vehicles, which in many cases are rather small, to travel long distances to the disposal sites. There are no transfer stations available to the collection vehicles at this time.

All of the existing solid waste disposal sites are totally unacceptable. All existing landfills are poorly located with respect to groundwater pollution and have been located in areas where it is impossible for the operations personnel to provide the daily earth cover necessary for an acceptable landfill operation. The existing landfills create excessive odours, rodent and insect breeding, smouldering fires, and groundwater pollution. The best description of the existing disposal sites would be to classify them as open dumps rather than sanitary landfills. In a properly operated sanitary landfill, the

area would be fenced and the access gate would be serviced by either a series of scales for weighing the incoming tonnage or by a gate house where an estimate could be made of the yards of refuse to be disposed. If this were done, then an appropriate charge could be made to the users of the landfill to recover the capital and operating costs for the landfill site.

The lack of any attempt to provide an earth cover of each day's accumulation of refuse, allows storm water to infiltrate into the refuse resulting in an anaerobic decomposition of the refuse with resulting odours from the gas generated. Lack of cover also allows fires to self-generate. The lack of cover also allows the proliferation of rodents, flies and other vermin which can then migrate into the neighbourhoods adjacent to the fill.

INSTITUTIONAL PROBLEMS

The environmental problems associated with solid waste management are caused by long standing institutional weaknesses. A lack of financial resources could be considered the underlying cause. There is also a lack of discipline related to littering also exists among many in the populace.

Under the MMA, the governing board is composed of the 4 cities and 13 municipalities which comprise Metro Manila. The concept of the MMA as a strong element of regionwide government is not necessarily supported, however, by all the jurisdictions represented on the MMA governing board.

PROPOSED GUIDELINES FOR SOLID WASTE MANAGEMENT

The proposed plan envisions the establishment of two new landfills, one to serve the northern portion of the city, and the other to serve the southern part of the city. In addition to the two landfills, the proposed plan calls for the construction of approximately 5 transfer stations.

In regard to the construction of transfer stations, the stations should be designed to provide storage of refuse in a pit so that the collection vehicles can be promptly moved in and out of the station. If refuse storage is not provided, there must be an adequate number of transfer vehicles available at all times to accept refuse directly from the collection vehicles.

The new sanitary landfills should be located in areas where there is no useable groundwater under the landfill site. Another major consideration would be provision for adequate buffer areas between the landfill site and other commercial and residential developments. Also, access roads should be adequate for the heavy axle loads associated with heavy collection vehicles and the roads should be wide enough to accommodate the refuse vehicles without leaving the paved surface. Once the new landfill sites are acquired, it would be preferable to erect a fence around the entire property to prevent access by squatters or scavengers.

The following list of conditions are recommended for the operation of a sanitary landfill which will not cause any nuisance to the community:

1. A daily cover of earth of approximately 6 to 12 inches depth must be provided over all refuse at the end of each day.
2. Each day, as the refuse cells are constructed, grades must be set to ensure drainage of storm water.
3. A water truck or a number of water trucks are needed to control dust and to help compact the material used for internal access roads.
4. Wet weather dumping areas must be constructed to provide access in and out of the site and dumping area during the rainy season.
5. After completion of the landfill, all exposed slopes and the top of the landfill should be covered with about 4 to 5 feet of soil. A cover of this thickness would also provide adequate fill to support trees and shrubs.
6. When a significant depth and quantity of refuse has been deposited in the landfill, wells and gas trenches should be constructed for withdrawal of the methane gas which is produced anaerobically from within the landfill. If the landfill is properly covered with dirt each day and the slopes are properly covered, the gas withdrawn on the landfill will contain from 400 to 450 BTU cubic foot. Gas of this quality can be burned in a gas engine or can be burned in a steam generating plant for producing electricity.

7. If two new landfills are to provide disposal for the 8.5 million people in Metro Manila, thousands of tons of refuse will be deposited in each landfill each day. This will require a substantial number of units of heavy equipment.

WATER QUALITY MANAGEMENT

The major river systems in the Metro Manila Region (MMR) are the Pasig-Marikina River, the Malabon-Tullahan River and the Paranaque-Zapote Rivers. Manila Bay and Laguna Lake (Laguna de Bay) are the two bodies of water into which these rivers flow.

The rivers are so highly polluted from the discharges of domestic and industrial wastewater that they can be termed as being biologically dead except for the upstream portion of the Marikina River. Most of the pollutants discharged in the region's river systems eventually end up in Manila Bay and the remainder in Laguna Lake.

EXISTING ENVIRONMENTAL CONDITIONS

Major Rivers: The Pasig River flows east to west through Metro Manila for 25kms., crossing through the City of Manila to Manila Bay. The river has three principal tributaries: the San Juan River, the Marikina River and the Napindan River. The watershed area covers about 635 sq.km. but a large portion of the watershed is outside Metro Manila.

It has been estimated that 70 percent of the organic pollution in the Pasig River is due to domestic waste and 30 percent to industrial waste discharges. Out of over 300 industrial firms along the banks of the Pasig River system, about one-half have been found to be polluting the water in varying degrees. River pollution is further aggravated by oil spills, from about 300 gasoline stations, several oil depots, and barges, tanks and boats docking in the area.

The most polluted river system in the country today is the Malabon-Tullahan River system. The pollution of the Malabon-Tullahan River system is estimated to be about 58 percent from domestic waste (both liquid and solid waste) and 42 percent from industrial waste. There are about 1000 industries along the river banks and about 11,000 squatter families within its watershed.

Both the Pasig-Marikina and the Malabon-Tullahan River Systems have been significantly affected by the vast quantities of silt deposited in the river beds, which causes regular flooding due to river bank overflows during intense rains. Siltation is caused by soil scoured from deforested upper watershed areas and by bank erosion.

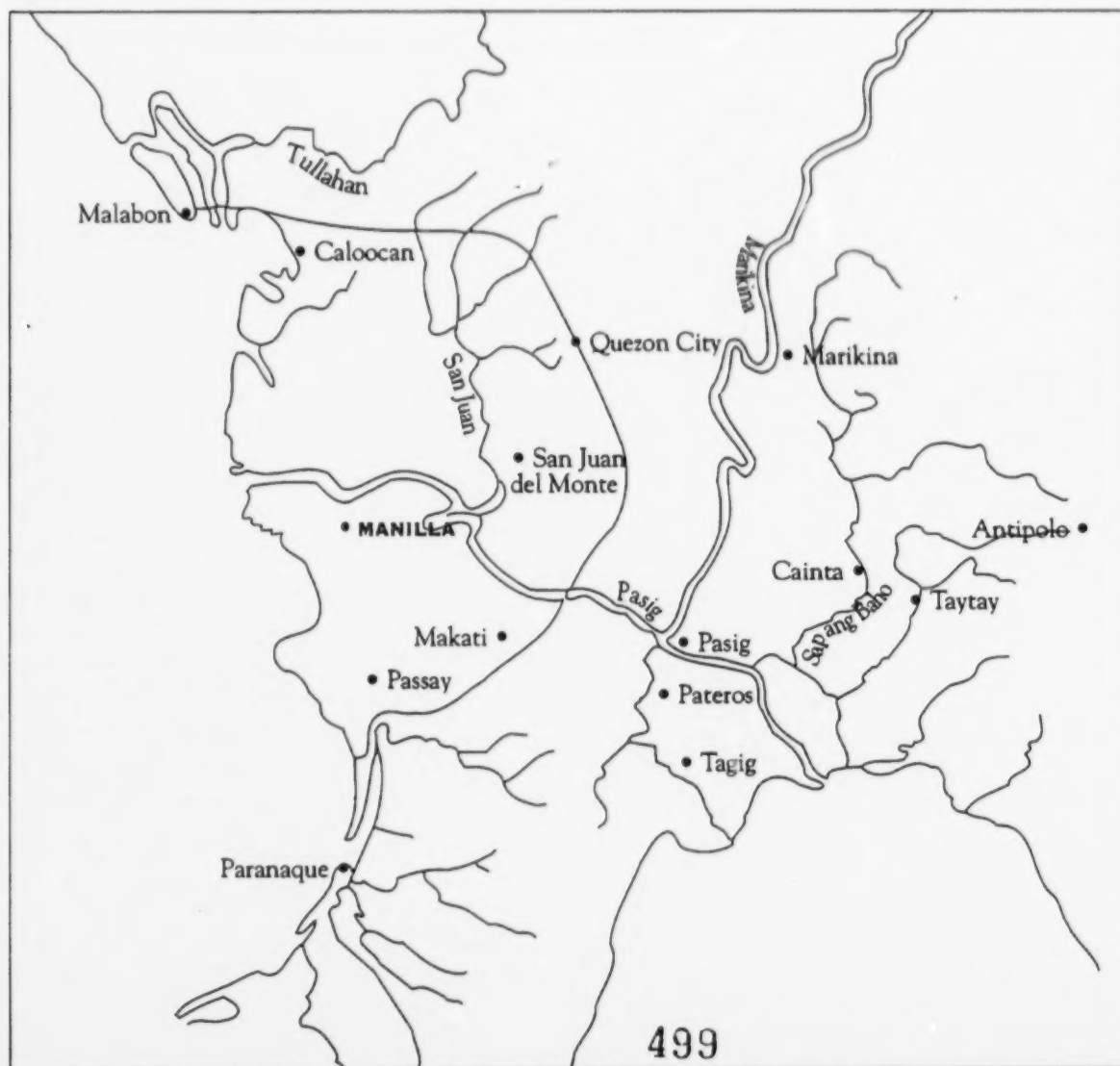
Manila Bay: Most of the pollutants generated in the study area, eventually end up in Manila Bay. The Bay is therefore the recipient of domestic and industrial waste discharges, agricultural runoffs and oil spills.

One of the major causes of the pollution in the bay is the lack of adequate domestic wastewater sewerage facilities. Only about 15 percent of the population of Metro Manila is presently sewered.

Laguna Lake: The increase in direct discharges of domestic and industrial wastes, and agricultural runoff, plus pollution carried in by tributary rivers, has degraded the water quality of Laguna Lake over the years.

In the last 20 years, the watershed area of the lake has become one of the most heavily urbanised and industrialised areas in the region.

Source: Extracts from a Department of Environment and Natural Resources Report, Manila, Philippines, 1989.



RESOURCE 6

WASTE MANAGEMENT - METRO MANILLA 1989

FUTURE PROBLEM SOLVING

STATEMENT OF THE PROBLEM

- | | |
|--|------------|
| I: Identifying Possible Causes and Solutions | 20 minutes |
| II: Describing the Underlying Problem | 15 minutes |
| III: Identifying Possible Solutions to the Underlying Problem | 20 minutes |
| IV: Describing the Best Solution | 15 minutes |
| V: Outlining the Steps in Implementing the Best Solution and the Consequences of this Implementation | 20 minutes |

STATEMENT OF THE PROBLEM

It is the year 2000, and for the first time in its history the population of Metro Manila did not grow ... instead it shrank. Family after family was leaving Metro Manila in search of better places to live and work.

The present problem had its beginning in the '70's and '80's. As Metro Manila grew, it grew faster than it could be serviced. Now in the year 2000 there are many problems in the city, but the overwhelming one is waste.

At the end of the '80's Metro Manila was generating 4,000 tonnes of waste a day and collecting only 3,600 tonnes a day. Over a week the uncollected 400 tonnes a day became 2,800 tonnes. Over a month 12,000 tons was uncollected..

As the 10 years passed from 1990 to 2000, more and more problems emerged. As the piles of garbage increased some streets became impassible except on foot. The smells that rose from these piles were almost impossible to live with. In the monsoon season the rubbish was washed about the streets and eventually into the stormwater drains where it clogged the drains.

When this happened the floods that had plagued Metro Manila in the '80's became far more destructive in the '90's. In the end, it was only the rats, the fleas and the flies that benefited from the growing mountains of waste.

But it wasn't just the streets of the city that were suffering the waters of Metro Manila were dead or dying. The Pasig-Marikina River, the Malabon-Tullahan River and the Paraneque-Zapote were all biologically dead. Manila Bay and Laguna de Bay were increasingly polluted and it was now unsafe to eat fish caught in either Bay.

The sources of this pollution are both domestic waste and industrial waste. Along the Pasig River there are over 400 gasoline stations and several oil depots. In the watershed of the Malabon-Tullahan there are over 16,000 squatter families. In addition deforestation in the watersheds of the rivers has led to increased run off, a siltation of the rivers and consequently a reduced riverflow.

Finally some of the industrial refuse that finds its way into the rivers and bays are the heavy metals of copper, zinc, cadmium, silver and mercury. A number of people had died as a consequence of eating fish that had accumulated those heavy metals in their flesh.

Metro Manila was suffering from all this waste. The rivers were dead, the bays were dying, and many of its streets were smelly and ugly. It was as if the city had contracted leprosy. Proud Metro Manila needed to be re-vitalised.*

* The source for the creation of this problem and for the data in the Appendix was a report from The Department of the Environment and Natural Resources (DENR), Manila.

STEP I

IDENTIFYING POSSIBLE CAUSES AND EFFECTS

Now that you have thoroughly read and discussed the situation, it is time to consider the many problems and difficulties related to it. Begin by brainstorming the many factors that may have caused the situation or that may result from it. Select the TEN that you think are the most important and write them below and on the following pages. Choose your words carefully, using *statement* (rather than question) form.

Rules for Brainstorming

1. Criticism is ruled out.
2. Free-wheeling is welcomed. The wilder the ideas, the better. Off beat and silly ideas may trigger practical breakthroughs that might not otherwise occur.
3. Combination and improvement are sought. Group members are encouraged to combine and "hitch-hike" ideas.
4. Quantity is wanted. The larger the number of ideas, the greater the chance of reaching the best solution.

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____

STEP II

DESCRIBING THE UNDERLYING PROBLEM

Based on your list in Step I, identify an underlying problem of major importance, using the outline below. Your problem should clearly explain what you want to do, and why it should be done.

How can we _____

 (state what it is you wish to achieve)

because _____

(state your reasons)

so that _____

(state the benefits/losses that will follow for the different groups with a stake in the problem.)

STEP III

IDENTIFYING SOLUTIONS TO THE UNDERLYING PROBLEM

Brainstorm as many solutions as you can to your underlying problem. Choose your TEN most promising solutions to list below. Write each solution so that it describes WHO will carry out WHAT action, HOW it will be done and WHY it will solve the problem, e.g. The people (WHO) of Manila must (ACTION) by (HOW) and in that way (WHY it will solve the problem).

1. _____

2. _____

3. _____

4. _____

5. _____

6. _____

7. _____

8. _____

9. _____

10. _____

STEP IV

DESCRIBING THE BEST SOLUTIONS

Using your 10 solutions in Step III, outline the Best Solution to the underlying problem. Your Best Solution might link three or four or more solutions from the 10 you have listed.

STEP V

Outlining the Stages in Implementing the Best Solution and the Consequences of this Implementation

Outline the stages in putting this solution into practise. Do not use any more than 5 stages. Also identify at least one consequence that would follow each stage.

READING 1

INTRODUCTION TO SOLID WASTE PROBLEMS

The fantasy journey was an introduction to the problems of chemical waste, but the "throwaway age" we live in brings with it waste problems of another nature. The garbage, or solid waste, that is collected from outside the front doors of our homes, offices and factories once or twice a week is evidence of how much we throw away. In 1988 Sydney-siders threw away 3,400,000 tonnes of solid waste, and the amount that is generated in that city continues to grow both in total terms and on a per capita basis. It is projected that by the year 2001 the people of Sydney will throw away 5,500,000 tonnes of solid waste.

In USA approximately 2000 new products are created each year, which makes a significant contribution to the solid waste produced. The annual throwaway list in the US includes 52,000,000,000 cans; 30,000,000,000 bottles and jars; 4,000,000 tonnes of plastic; 8,000,000 TV sets; 7,000,000 cars and 30,000,000 tonnes of paper.

The rapid increase in the use of materials as nations have industrialised and modernised, has been accompanied with a correspondingly rapid increase in the output of garbage. Apart from a growing quantity of waste there is also concern for its "quality". Modern consumer products contain toxic substances that create problems of disposal. Old car batteries contain heavy metals such as lead, mercury and cadmium. Household cleaners, solvents and paints, and the pesticides and weedicides that we use on our suburban gardens may contain hazardous chemicals.

Over the last 20 years many nations have come to realise that the traditional reliance on landfill as method of disposal is not always appropriate. Solid wastes that go directly to landfills can create their own set of problems. In the first place landfills take up space that in most cities of the world is very valuable. Secondly all landfills eventually "leak", releasing into the soils and groundwater a toxic mix of rainwater and decomposing waste.

The UN Environment Program has the following preferences for waste management:

1. Source reduction - i.e., avoiding waste generation in the first place
2. Direct reuse of products
3. Recycling
4. Incineration, with recovery of energy from the heat generated
5. Landfill

In addition to these five the Waste Management Authority of NSW has a program of Landfill Gas Utilisation in operation. Landfill gas is usually 60% methane and if this is extracted from the landfill it can be marketed. In Merrylands, Sydney, landfill gas is sold to the local brickworks to fire kilns.

When faced with management problems, local and national governments tend to deal with the problem by going from landfilling to incinerating. Mass burn incinerators can be very expensive to establish and are four to five times more expensive per tonne (\$70 - \$80) than landfill per tonne (\$15 - \$16). The construction of an incinerator can lead to a backlash from local residents and because of maintenance shutdowns and the fact that some waste cannot be burned, usually only reduce total waste by about 50% by volume.

Incinerators are expensive in terms of energy. Though they may produce heat energy from burning, the amount recovered is considerably less than that needed to produce the items they burn. Recycling paper, some plastics and aluminium saves approximately twice as much energy as incineration. Incineration has other problems - ash from incinerators that goes to landfills may contain toxic chemicals that can leach into the groundwater; nitrogen, sulphur oxides, carbon monoxide, acid gasses, dioxins, carcinogens and heavy metals can be pumped into the air to the detriment of many.

The first step in cutting waste is reduction. By using less material in the first place they reduce waste. However, such a strategy does not always suit the "consumer". Many consumers want to buy, use, discard and to be impressed by packaging and its convenience. In 1988 packaging constituted 21% of domestic waste in the Netherlands while it was up to nearly 30% in what was then West Germany. Consumers frequently prefer "new" to "repaired" - though in many instances it must be admitted that we are advised to buy a cheap, new one rather than have an expensive repair done.

Another major step in cutting waste is recycling. We are told that even without changes to products or industrial practices, half of the contents of the average garbage bin can be easily recycled. In Sydney, enough glass to make 2,000,000 bottles, enough metal to build another Harbour Bridge and enough paper to save 1,000,000 trees from destruction, are discarded and buried in landfill sites every year.

Yet with all this potential, recycling ventures are not especially successful. The government, the community and industry have all been apathetic at times and while there has been much rhetoric, there has not been the required attitude change.

A large part of the problem is that since the industrial revolution we have accepted that waste is a by-product of progress, and that we have a right to have our wastes removed at minimal cost and inconvenience. Unless we have a change of heart, waste will continue to be a growing problem and the notion of a sustainable society that will preserve the environment for future generations will remain nothing more than a load of rubbish.

BIBLIOGRAPHY

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- Sydney Solid Waste Management Strategy, Waste Management Authority of NSW: Chatswood, 1990.
- Young, J.E. (1991) Reducing waste, saving materials, in L. R. Brown et. al., eds., *State of the World 1991*, Allen and Unwin, North Sydney.

READING 2

FUTURE PROBLEM SOLVING

Problem solving is a strategy that is dealt with extensively in the literature on Social Studies, Maths, Science, Art and other subject areas. The basic steps of the strategy are well known, but vary somewhat from writer to writer. The model that is presented here is a modified and simplified version of a Future Problem Solving Strategy that is dealt with fully in: Anne Crabbe (1985) *The Coach's Guide to Future Problem Solvers Program*, St Andrew's College, Leuringberg, N.C. 28352, USA.

There are five steps in this particular strategy, once the problem has been stated. Each step has a recommended time for its completion.

STATEMENT OF PROBLEM

The problem is set in the near future. It is established by examining the causes and effects that are interacting to create a current problem, and then extrapolating these to approximately 10 years hence. The problem is then either "out of hand" or getting that way, and the participants are asked to set in train a series of steps that will rectify the problem, and that should have been set in train 10 or so years back, in the present time.

I Identifying Possible Causes and Effects (20 minutes)

This is a freewheeling session in which teams explore what the causes of the problem are, or might be, and what the effects are, or might be. It is, in a sense, a "familiarisation tour" of the problem. All ten spaces should be completed as this ensures that the possible causes and effects have been well thought through.

II Describing the Underlying Problem (15 minutes)

This is a less freewheeling and more disciplined section. The teams need to synthesise the ideas dealt with in I above to arrive at what they consider the nub of the problem. The first two parts to this section are self-

explanatory but the final part (*so that...*) needs to address the pros and cons of their goals, e.g.,

- *How can we educate the people to reduce the amount of waste in Manila*
- *Because the city is dying under its own weight of rubbish*
- *So that those who live in Manila will make the effort to change their habits and will put more stress on health, hygiene and city appearance.*

III Identifying Possible Solutions to the Underlying Problem (20 minutes)

This is once again a freewheeling session in which the teams generate solution to their chosen underlying problem. The test here is whether or not they stay on the task and that all their possible solutions are consistent with the problem they have specified. Once again there are 10 spaces to ensure the problem is well thought through and that teams do not stop at the first three or four solutions. The purpose of steps I and III is to force the teams to generate as many ideas as possible in the hope that one or more of these ideas may trigger a realistic solution to a genuine problem. It is important in this step that the teams specify WHO, WHAT, HOW and WHY. It is important to note, for example, that all the WHOs are not "the government". Clearly any complex problem requires contributions from a variety of individuals and agencies, and a listing of the WHOs involved should preclude one or two agencies being named to do all the work.

IV Describing the Best Solution (20 minutes)

Once again the teams are required to synthesise their ideas and to express their best solution as succinctly as possible. Their consistency of thinking is tested here and the best solution must clearly address the underlying problem summarised in II.

V Outlining the Stages in Implementing the Best Solution and the Consequences of this Implementation
(20 minutes)

In this step the teams need to agree on the sequence of steps needed to bring about a full implementation of this solution. This sequence is dealt with by the column headed STAGES. Here the teams need to show what they would do first, second ... and fifth, so that their solution would stand the best chance of being accepted. At the same time as this sequence is being worked on, the teams need to consider the consequences that might flow from the actions involved in each of the STAGES. If, for example, the first stage of the implementation was: *Large fines for anybody caught littering* then the consequences might be so negative that the rest of the stages could not be brought into operation.

On the other hand, if a different first stage was implemented, then positive consequences might occur and the rest of the stages would stand a better chance of success.



PERSONAL POWER *and* PLANETARY SURVIVAL

DON GOBBETT

UNIVERSITY OF SOUTH AUSTRALIA

INTRODUCTION

This workshop seeks to enable participants to explore their feelings surrounding a range of global and environmental issues and to empower them to contribute professionally and personally to changes directed towards planetary survival. Acknowledging and confronting our pain and other strong feelings about the world is important for our own empowerment and for social and global transformation.

Education must address both the cognitive and affective domains and should empower people to act. Individual development begins with an acknowledgment and acceptance of the individual's existing ideas and feelings. As human beings we are not always rational. Our feelings frequently influence our behaviour. Our inner lives influence our outer ones. In our educational activities it is important that our means and ends should be consistent. Our methods should match our objectives and there should be congruence between our theory and our practice. Our educational efforts to facilitate the attainment of their full potential by each individual should recognise that every human being is unique and has a special contribution to make to the world.

OUTCOMES

During this workshop, participants will begin to:

- acknowledge their feelings concerning environmental problems and their responses to them;
- feel able to take some action to bring about change; and,
- relate their experiences in this workshop to their future work as teachers.

WORKSHOP OUTLINE

There will be a series of activities to help participants acknowledge and address their awareness and feelings concerning environmental issues, and to enable them to find ways in which they can act to contribute constructively to global, national and/or local changes which contribute to environmental sustainability.



1. Introduction

A. Icebreaker

Participants introduce themselves and indicate to the group one of their strengths and/or the group plays the game "Envirobingo". This game enables participants to identify other members of the group who act in an environmentally conscious way.

B. Introduction to the Workshop

The workshop structure is outlined and the underlying assumptions and "ground rules" discussed.

C. Audio-tape

Introduces some environmental issues and concerns.

2. Letting Responses Arise

Two activities that encourage participants to share their thoughts and feelings about the condition of the world and their own life journey and events.

3. Individuals Making a Difference

Two activities designed to develop participant's appreciation that individuals have the power to shape events, both on a personal level and a global one.

4. Identifying Goals and Resources

Participants work in pairs to respond to questions designed to highlight what the individual requires for change to occur. This is followed by a mini-lecture/discussion on the notion of interconnectedness between people and people and between people and our planet. The third activity asks participants to consider the situations they have experienced in school/the classroom.

5. Debriefing

A. Debriefing activity

Participants work in pairs and discuss what they have valued from the workshop.

B. Final Evaluation

Participants choose a word or short phrase to sum up their feelings about the workshop.

MATERIALS REQUIRED

It is preferable that the space should enable participants to sit in a circle and be able to move about easily.

A) PROVIDED

OVERHEAD TRANSPARENCY MASTERS

OHT 1: Person - People - Planet

OHT 2: Questions for Debriefing

RESOURCES

Resource 1: Envirobingo

Resource 2: Script for Audiotape

Resource 3: The Global School



B) TO OBTAIN

Activity 1C: Facilitators should make a dramatic-sounding audiotape of the text in Resource 2 in advance of the workshop. Alternatively a small group of participants could be asked to present the script as a short play.

Activity 2 A/B: A3 sheets, felt pens

ADDITIONAL READING

- Greig, S. *et. al.* (1989) *Greenprints for Changing Schools*, WWF/Kogan Page, London.
- Hicks, D., ed. (1988) *Education for Peace - Issues, Principles and Practice in the Classroom*, Routledge, London.
- Macy, J.R. (1983) *Despair and Personal Power in the Nuclear Age*, New Society Publishers, Philadelphia.
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- Rozak, T. (1981) *Person/Planet*, Paladin, New York.
- Seed, J. *et. al.* (1988) *Thinking Like a Mountain - Towards a Council of All Beings*, New Society Publishers, Philadelphia.
- Shields, K. (1991) *In the Tiger's Mouth - An Empowerment Guide for Social Action*, Millenium Books, Newtown.

ACTIVITIES

N.B. The role of the facilitator: It is important to create an atmosphere of acceptance, safety, trust and mutual support especially when dealing with the strong feelings which may be expressed in this workshop.

Attention needs to be constantly given to both the content of the session and to the process being experienced. Because this can be quite demanding it is often valuable to work with another facilitator.

Facilitators must be clear about their own feelings and responses to issues, and at appropriate times be prepared to share these. Preferably this work should be done prior to working with a group so that the facilitator can concentrate on what is happening in the group.

Tensions and conflicts may arise in the group and it is important that there is some group commitment to working through these. Similarly it is necessary to avoid endless arguments and to prevent members from putting each other down.

Workshop leaders who are unfamiliar with this approach may wish to do some background reading. In particular chapters 1 and 2 of Macy and chapters 1 and 14 of Shields. (Listed in Additional Readings above)

In the activities which follow some choice is provided to enable facilitators to select those with which they and the particular group may feel comfortable.

1. INTRODUCTION

A. Icebreaker/warm up activity

- If it is the first meeting of the group use a name game e.g. each person says their name and indicates one of their strengths.

Or, alternatively, if members of the group already know each other a little, use the game "Envirobingo" (Resource 1) as a warm-up activity.

B. Aims and objectives of the workshop

- Briefly outline these to the group, indicating some of the underlying assumptions described in the notes to the facilitator and in the introduction.
- Point out that the workshop:
 - is planned as a personal as well as a group experience;
 - involves sharing personal ideas, experiences, feelings, fears, hopes with others;
 - may lead to strong feelings being expressed by people in the group; and
 - allows participants the unconditional right to abstain from any activity, at any time

C. Introductory/focus activity

Play the audio-tape of the text in Resource 2 to set the scene for the workshop. Alternatively, a small group of participants may have prepared it as a short play.

2. LETTING RESPONSES ARISE

Depending on time available, use either Activity A (Imaging with Colours) and/or Activity B (Life Trajectory) to encourage participants to begin to share their thoughts and feelings openly.

A. Imaging with colours

- Ask the group to suggest words or phrases denoting conditions in the world that cause them distress and write these up on butchers' paper.
- In silence, individuals consider the words and phrases and find one that speaks to them with particular impact, then each works alone with A3 sheets and felt pens to portray their response.
- Ask the participants to divide into groups of 3 or 4 and to name any particular feelings they had as they worked on this task. There is no need to defend or explain their responses.

B. Life Trajectory

- Encourage relaxation and indicate that the activity is about looking back over the course of one's life in the context of world events.
- Use pencil and A3 paper. Draw a line to represent one's life journey from birth to the present, recording the major social and personal events that have shaped it.
- Turn the paper over and continue the line from the present to the moment until their death, noting the anticipated date of death and the major events expected to happen in the future.
- In groups of 3 or 4 discuss the feelings evoked by each aspect of the activity, particularly any conflicting feelings about the future.

3. INDIVIDUALS MAKING A DIFFERENCE

These two activities help participants to appreciate the power of individuals in shaping events, large and small.

A. Recalling action

- Ask participants to settle in a comfortable position.
- Ask them to relax, close their eyes and remember a time when they felt that some action they took made a difference that was positive. Pose the following, or similar, questions:
 - What happened?
 - Who was involved?
 - What was the setting?
 - Remember as vividly as possible the qualities of mind and feelings you had at the time.
- Ask participants to make a few notes then tell their story to another person.

B. Brainstorming

- Divide participants into small groups to brainstorm responses to the following two questions:
 - In our daily lives what causes us to avoid expressing our deepest concerns and feelings about the dangers facing our world?
 - In what ways can we help others honour the deep concerns and feelings they may have about the dangers facing our world?

4. IDENTIFYING GOALS AND RESOURCES

A. Personal goals and resources

- Participants work in pairs, taking turns to respond to the following questions from the facilitator; one speaks, the other records.
- Facilitators should allow 3-4 minutes for the first couple of questions and gradually decrease the time as participants get used to the activity.
 - If you were totally fearless and in the possession of all your powers what would you do to heal our world?
 - What strengths or resources do you now have, that would help you do that?
 - What will you need to learn or acquire?
 - What obstacles are you likely to put in the way of fulfilling this goal?
 - What can you do in the next week - no matter how small the step - that will help you reach that goal?
- The facilitator repeats the questions at this point - one by one - and the scribes read back their answers quietly.
- Participants change roles and the process is repeated.
- The written answers are then given to their owners.
- In their pairs, invite participants to indicate what support they may have or may need, in taking the step they have suggested.

B. Person-People-Planet: A mini-lecture/discussion

The aim of this segment is to facilitate reflection on the interconnectedness of life, our relationship with other people (both those close to us and known to us, as well as those further away and unknown) and with our planetary environment.

- Use OHT 1 of three overlapping circles representing Person-People-Planet.
- Use the diagram to help reflect on the interconnections of our lives. Consider the things we do individually and collectively and the impact they have on individuals, other groups of people and the planetary environment or our immediate part of it.
- Consider human rights/respect for individuals/cultures. What impact on individuals results from the actions of some groups? How is human behaviour affected by the nature of the planet?
- How have we acted in the past? What impact have our actions had on other people and on the planet?
- How should we act in the future? How can the balance and well-being of all people and the sustainability of the planet be achieved?
- Is this model potentially useful as a framework for reflecting on past behaviour? How could it be used in clarifying impacts of decisions we make?

C. Goals for schools and classrooms

- Distribute Resource 3 and ask participants to read the paragraph at the start of that page.
- Ask participants to work in groups of 4 or 5 to consider the following questions on Resource 3.



- In what ways has a school or classroom you experienced been empowering?
- What would you change or do differently in your classroom or school? How?
- What knowledge or skills might you need to learn in order to make the changes you have envisaged?
- Suggest some ways in which you might acquire the knowledge and skills you have identified as necessary.

5. DEBRIEFING

A. Debriefing

Participants choose a partner and briefly answer the following questions (on OHT 2):

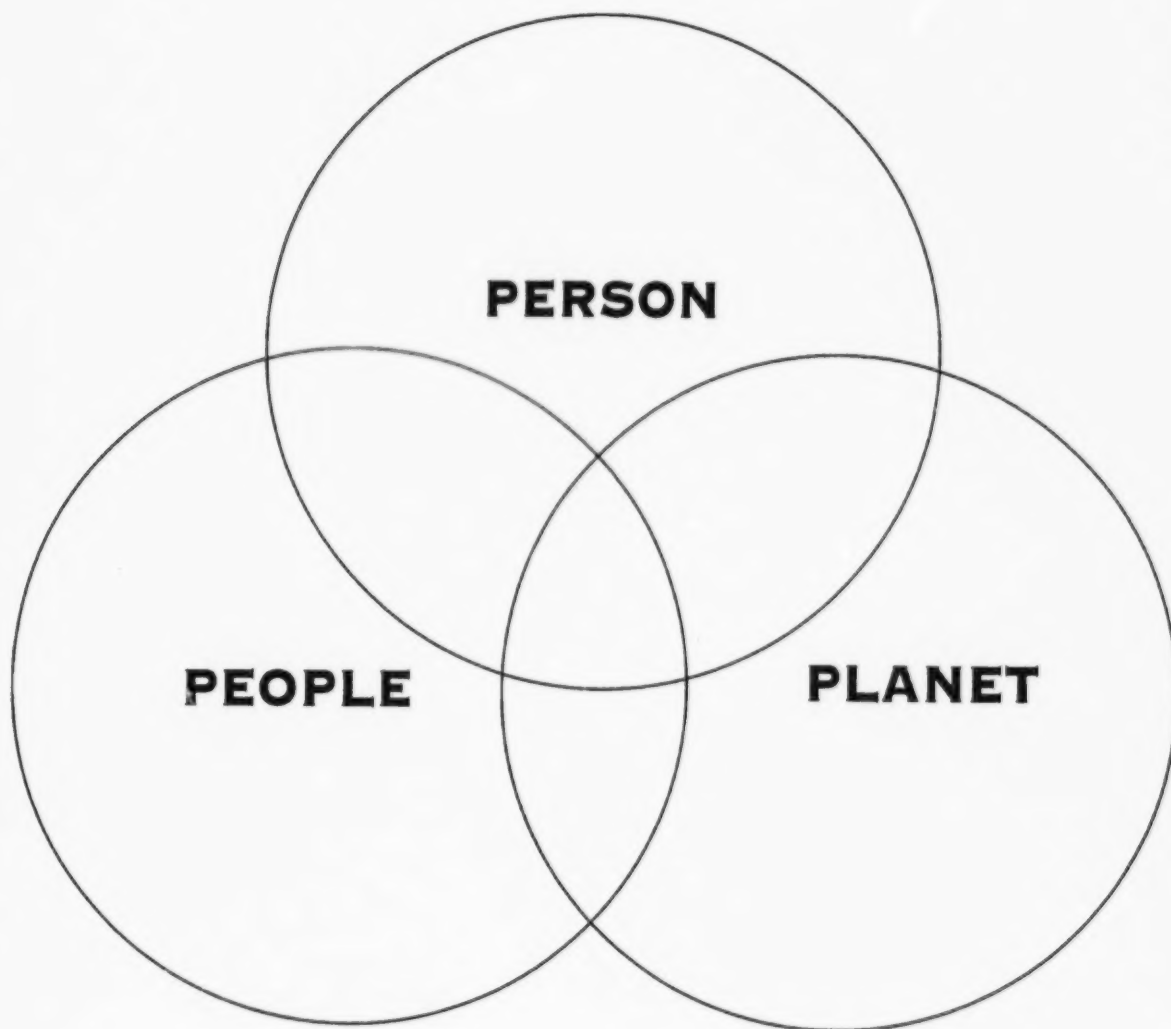
- Which aspect of this workshop have you found the most stimulating?
- Name one new thought you are taking away from it.
- What is one thing you intend to do as a result of the workshop?

B. Final evaluation activity

Ask participants to choose a word or short phrase to sum up their feelings about the workshop. This can be done as a round. The facilitator accepts the comments and affirms the participants without any reactions or discussion.

OHT 1

PERSON - PEOPLE - PLANET



OHT 2

QUESTIONS FOR DEBRIEFING

Choose a partner and briefly answer the following questions

1. Which aspect of this workshop have you found the most stimulating?
2. Name one new thought you are taking away from it.
3. What is one thing you intend to do as a result of the workshop?



RESOURCE 1

ENVIROBINGO

Complete a row of 4 squares in the table below by writing in the name of someone who

A. Rides a bicycle once a week	B. Is a vegetarian	C Supports an environmental organisation	D. Buys organically grown
E. Has walked in a rainforest	F. Is a reformed smoker	G. Recycled something recently	H. Has prepared a 3 course meal
I. Supports an overseas aid organisation	J. Takes plastic bags to the supermarket	K. Can name a Midnight Oil album/song	L. Has fasted for a day
M. Watches Ch. 2 or SBS TV once a week	N. Avoids eating beef	O. Has planted a tree in the last year	P. Can name a green politician

RESOURCE 2

AUDIO TAPE SCRIPT

The following is the script for which a dramatic audiotape recording should be made (approx 3.5 minutes).

FX FADE UP R.E.M.'S: "IT'S THE END OF THE WORLD AS WE KNOW IT (AND I FEEL FINE)..." FIFTEEN SECONDS. FADE DOWN.

V1: The world is collapsing around our ears. Our economies, environment and societies...

V2: Changing, changing, always changing...

V3: I can't see the light at the end of the tunnel anymore.

V1: What if we can't all make a difference? What if it's too late?

FX FADE UP MUSIC. TEN SECONDS. FADE DOWN.

V2: I was fifteen, walking to school when a tremendous roar filled the air. I threw myself against a garden wall, thinking a bomb was about to be dropped. I looked up and saw a Boeing 747. I picked up my school bag and dusted myself off. I was angry and embarrassed. Angry I had to live with that fear.

FX SLIGHT PAUSE.

V3: I was thirty-five when I realised the lives of my children were at stake. It dawned on me that one day we could wake up and find the food chain has been overloaded with toxins. I don't want to die like that. I don't want my children to die like that.

FX FADE UP MUSIC. FIVE SECONDS. FADE DOWN.

V1: One quarter of the world's population uses five sixths of the world's resources. And they waste a lot of that too. Then they turn to the other three quarters and tell them there's a population problem...The inequities in our world are horrifying.

V2: Without the natural greenhouse effect, temperatures on this planet would be like the moon. Intolerable for our fragile existence. Yet, with the unnatural increase in the green-house effect life on Earth is also threatened. A delicate balance.

FX FADE UP MUSIC. FIVE SECONDS. FADE DOWN.

V3: And in the news this evening...another major oil spill. This time off the coast of South Australia. Officials say it is too early to estimate the full extent of the damage...



V1: So much conflict in the world...nations against nations, rich against poor, religions against religions, men against women...Where did all the hatred come from?

V2: Right now someone is being tortured, someone is starving, someone is being raped, someone is being murdered, someone is suiciding from loneliness...Have we lost the ability to feel each other's pain?

FX FADE UP MUSIC. TEN SECONDS. FADE DOWN.

V3: And yet somehow, humans continue to dream, to laugh, and to work towards a better world.

V1: In the midst of adversity lies a tremendous opportunity, to change and discover new paths.

V2: The Earth has the power to recover, to renew itself...the ozone layer can regenerate...the wounds on the planet will heal...it just takes time.

FX FADE UP MUSIC. TEN SECONDS. FADE DOWN.

V3: Diversity, in nature, in cultures, in individuals could be celebrated not quashed.

FX SLIGHT PAUSE.

V1: Imagine what the world could be like.

V2: Humans could actually learn to respect each other and the earth.

V3: Ha! Just imagine!

FX FADE UP MUSIC. TEN SECONDS. FADE OUT GRADUALLY.

RESOURCE 3

THE GLOBAL SCHOOL

In the global school, as in the global classroom, the medium is the message. The development of cooperative, affirmative attitudes among participants is largely dependent upon teachers displaying those same attitudes, in the staffroom as well as the classroom. A respect for the intrinsic worth and rights of other people must be enshrined in school regulations, disciplinary and complaints procedures. The encouragement of participants to actively participate in their own learning and development needs to be supported through opportunities to share responsibility for the management and direction of the school. A belief in open communication is effectively supported through meaningful dialogue between parents and teachers. A commitment to experiential learning can be positively expressed through sending participants out into the local community, to learn from its expertise and to contribute to its growth. In short, the empowering school is an embodiment of the ideals and aspirations it has for its participants.

Source: Pike, G. and Selby, D. (1988) *Global Teacher, Global Learner*, Hodder and Stoughton, London, p. 60.

QUESTIONS

1. In what ways has a school or classroom you have experienced been empowering?
2. What would you change or do differently in your classroom or school? How?
3. What knowledge or skills might you need to learn in order to make the changes you have envisaged?
4. Suggest some ways in which you might acquire the knowledge and skills you have identified as necessary.